THE GENESEE FARMER.

Vol. XVI., Second Series. ROCHESTER, N. Y., MAY, 1855. No. 5.

THE GENESEE FARMER,
A MONTHLY JOURNAL OF
AGRICULTURE & HORTICULTURE.

Volume XVI, Second Series, 1855

DANIEL LEE AND W. D. ALLIS, EDITORS.
JOSEPH FROST, HORTICULTURAL EDITOR.

EACH NUMBER CONTAINS 32 ROYAL OCTAVO PAGES, IN DOUBLE COLUMNS, AND TWELVE NUMBERS FORM A VOLUME OF 384 PAGES IN A YEAR.

Terms.

Single Copy,.....$0.50
Five Copies,..... 2.00
Eight Copies,..... 3.00
And at the same rate for any larger number.

DANIEL LEE,
Publisher and Proprietor, Rochester, N. Y.

SUBTERRANEAN APPLICATION OF LIQUID MANURE.

A Mr. Wilkins has patented in England an ingenious plan for applying liquid manure directly to the bottom of the roots of plants, in the subsoil, instead of using it upon the surface of the ground in the usual way. There is but one serious objection to it, and that is its expensiveness, which is likely to prevent its general adoption. The liquid manure is conveyed under the surface soil and growing crops in tubes, not unlike draining tile, allowing a line of pipes to each row of turnips, corn, potatoes, or other agricultural plant. To avoid the loss of manure by its infiltration into the subsoil and deep earth, the whole area operated upon has the surface soil removed to the depth of twenty or more inches, and the denuded surface is covered with water-lime, cement, or pounded clay, to render it impervious to water, when the surface soil is restored to its former place. In all cases where the subsoil is naturally retentive, it would appear to be a needless expense to pave or cement it to prevent the loss of manure, however liberally it may be used; but on all pervious land, something should be done to avoid the washing away of the liquid food of agricultural plants, where one manures highly.

Mr. Wilkins has pipes leading from liquid manure tanks that convey the fertilizer to the underground conduits through which it is brought into contact with the rootlets of every plant under cultivation. The manure rises up to the surface of the tilled soil by capillary attraction. Care, of course, is taken not to have the liquid so strong as to injure any crop, and not to give the soil, which in truth lies in a tight basin, too much water for the healthy growth of plants. Mr. W. selected last season a piece of ground 100 feet square, which he had prepared on his patent principle, and by the side of it he had 100 feet square of the same kind of soil, which was treated on the old system. Both pieces were planted and sown alike, and he had advertised the day when the roots on both would be taken up, and invited the public to come and see and judge for themselves. The results were, as reported in the *London Agricultural Gazette*, that on the prepared land the mangel wurtzel grown was at the rate of 69 tons 2 quarters and 22 pounds to the acre; the Indian corn grown on it ripened and came to perfection, but not on the unprepared piece; the potatoes were taken up in eleven weeks, and when weighed in the presence of several gentlemen, were found to be more than double the weight of those grown on the unprepared land; the winter brockoli was taken up and eaten before winter came; and one of the cabbages weighed 16 pounds, although its stem remained in the ground, and had at the time of examination 15 young cabbages upon it. Mr. Wilkins exhibited some lucerne, which he said was the third cut, and contrasted it with the first of some grown on the old system. Remarkably fine specimens of flax and hemp were exhibited, grown by this new process. Only four inches of liquid was allowed to stand at any time at the bottom; and the soil above must be from twelve to eighteen inches.

The leading idea is not to permit any element of fertility to escape, either by solar evaporation or leaching and washing; but compel growing plants to absorb and assimilate the maximum of their appropriate food. As an experiment, the plan is worthy of close investigation; for, having the irrigating pipes made of well burnt clay, they will last under ground for ages;—and manure in some form has always to be applied to tilled land from which annual crops are taken. Whether there is any better way than to spread it by hand and plow it in, is the question now before the public. By dissolving manure in water, it can be conveyed to the land that needs it, and evenly distributed either over the surface of the ground, or a foot or two under it by steam-power. Some years may elapse before either plan is brought so near perfection as to force itself into general use; but the wise investment of capital in farming operations is a point too little studied by the present generation. Commerce, merchandise, railroads, and manufactures absorb much of the wealth drawn primarily from the soil. When farmers shall learn to keep their capital in their own business, as well as produce it, and fully understand the principles of their noble calling, they will have both the means and the confidence required to make tillage and husbandry vastly more productive and less toilsome than they now are. Thousands now invest their surplus earnings in bank stocks, or other securities foreign to agriculture, because they lack confidence in the progress of their own profession. They dare not study closely even its scientific elements, lest it should tempt them into some unprofitable experiment. People walking in the dark are always more timid than those walking in the full light of the sun. It is the darkness that surrounds the growth of agricultural plants which retards the much needed improvements in feeding them. Science will dispel this darkness so soon as public opinion tolerates its general cultivation. Not only the science of feeding plants, but the art of tillage—never plowing less than is profitable nor more than is profitable—demands investigation. Some use the hoe too much, particularly in the planting States, and some too little. Every process ought to be carefully considered, with a view to economise labor and increase its products. How many worthless implements are now in general use in all parts of the United States, causing a serious loss of muscular toil and of crops? Good tools would add from ten to twenty per cent. to the agricultural income of the nation—but good tools cost money. Look where we may, we discover the want of capital to augment the fruitfulness of American soil, wherever it is cultivated. If we were less extravagant in our personal habits and notions, and saved money, instead of speedily consuming it, and grubbing along with old plows, harrows, wagons, and other dilapidated "fixings," we might supply ourselves with the best tools, machines, and implements in the civilized world. It is bad economy not to have every laborer work to the best advantage. This principle leads to the invention of all labor-saving machines.

THE CELLS AND CIRCULATION OF PLANTS.

Vegetable physiology has long taught us to believe that wood in trees is formed corporeally from above downwards; and the theory is suggested, and apparently proved, by the enlargement of the body of a growing tree, or of one of its limbs when a stout ligature is tied round it, *above* the point where the ligature is placed. This preternatural enlargement has been ascribed to the accumulation of the pabulum of woody fibre in the obstructed vessels and cells lying in the inner bark of the tree, through which passes the descending sap. Recent experiments, however, go to show that the vascular circulation of plants is restricted to the conveyance of organizable matter, and that it never distributes *organized* substances. This distinction is important to the right understanding of the relations that subsist between a graft or new bud which is made to grow on a different stock. Pomologists have hitherto supposed that inasmuch as the wood of trees grows downwards, the extending tissues of the graft would soon pass down over the wood of the stock and under the bark, perhaps quite to the extremities of the roots in the ground. This opinion is now abandoned by the best physiologists who have studied the growth and functions of different cells, alike in buds, fruits, leaves, stems and roots of plants. Starch, sugar, oil, gum, wood, and coloring matter are all formed in the cells where they are found; and they are never transferred from one organ to another. Near the beginning of September, 1853, Dr. Allen Maclean, of Colchester, England, an ingenious experimentalist and physiologist, grafted a young plant of the Silesian white beet upon a root of red beet, and one of the latter upon a root of the former. At the time of the experiment the plants were each about as thick as a straw. A complete union was effected; but there was a slight contraction at the line of junction. The white beet grafted on the red retained its natural color down to the line of junction, as did the red beet up to that line. Had there been any mingling of colors by vascular circulation, or otherwise,

these two kinds of roots would not have grown to maturity without the commingling of their cells and organized substances, as well as colors. As in the case of the misletoe, specimens of which, growing on persimmon, chestnut, and oak, we have examined with a good microscope, nothing but juxtaposition is necessary between congenial cells for both to live and perform their appropriate functions. In budding and grafting, such cells are brought into contact—nothing more. When a parasitic plant fastens itself upon another and extracts its nutriment, like rust, smut, moss, and lichens, it simply places its own cells in contact with those of the suffering plant; and the process may be regarded as natural budding. The same law which made the white and red beets adhere closely together, in the experiment of Dr. MACLEAN, causes the red fungus called "rust" to adhere firmly to the stems of wheat plants as they approach maturity. The matter elaborated in the cells of parasitic plants differs widely from that formed in the adjoining cells of the foster-mother. The fungus, called "smut" in wheat, transforms the entire seed (starch, gluten, and albumen) into a black, fœted mass of spores, every one of which may propagate its kind.

Important as are the vital processes carried on in cells, the distribution of the raw material wrought into wood, sugar, starch, oil, gluten, and other nitrogenous compounds, by means of continuous tubes, is equally indispensable in all vegetable developments above the cryptogamic families. Vessels in plants and animals appear to do nothing more than transport various substances from one part of the system to another; they do not assimilate nor decompound the fluids or semi-fluids which they contain. If any changes take place within them, they are chemical, not vital, like the formation of bile in the liver, or gastric juice in the stomach, or of sugar in the cells of the beet. Why a lachrymal cell secretes tears, or a renal cell urine, no one knows.

Fluids pass through the walls of cells during their healthy action, whether in animals or plants, but the function of each appears to be entirely independent of all others. It may, however, be varied and modified by a change of circumstances; and wise culture in the case of plants consists in so changing the surrounding circumstances as to improve the growth and quality of all natural fruits, seeds, roots, tubers, and blossoms. To understand the vital and chemical laws by the operations of which all agricultural and horticultural plants attain a higher development, one must study their anatomy and physiology, and the properties of the alimentary substances on which they subsist. Because we can not learn all the mysteries of nature as displayed in the vegetable kingdom, it does not follow that we should attempt to learn nothing. Much is already known, and infinitely more is knowable to reward future observations and researches. Under the most auspicious influences, plants grow with wonderful rapidity, and yield great returns to the cultivator. Hence, every element which can influence the production of new cells and new vessels in plants, whether it is heat or cold, moisture or dryness, sunshine or shade, sand or clay, lime or potash, demands careful investigation. No one wants poor, stunted crops, yet few are willing to learn all they can of the true causes of small and unprofitable harvests. If farmers and their sons could look into the circulating tubes of maize, wheat, and oats, and see how innutritious and watery is the food drawn from a badly tilled soil, and then examine the condition of their stables, sheds, barns, and yards, where rich manure is lost by the ton, the wholesome rebuke would lead to a speedy reform. Superficial observation and downright carelessness are the two greatest evils in agriculture. The microscopic cells in the forming seeds of corn, wheat, rye, barley, oats, and potatoes would elaborate an incalculable amount of starch, oil, and gluten, with which to feed abundantly all mankind, if this great subject could only receive proper attention. As it is, many thousands suffer from the want of food in cities, and the land is every where made less productive as population increases.

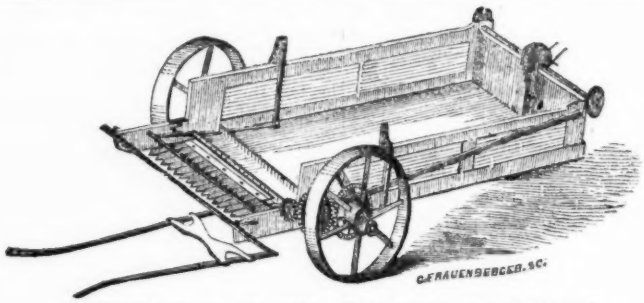
LICE ON CATTLE.

MR. EDITOR:—I have been very successful in removing lice from cattle by the use of sulphur, given in doses of from one to three teaspoonfuls, and from once to three times in two weeks, according to age and circumstances. The blood of the animal, upon which the vermin subsist, becomes impregnated with the sulphur, or some property contained in it, and the consequence is, I have seen legions of them clinging to the hair and dead, as you, no doubt, have seen grasshoppers sticking to a thistle, or some other object, after a severe frost in the fall. M. GARNSEY.

MIDDLEBURGH, N. Y.

[The above preventive is valuable by reason of its simplicity and ease of application. Facts like the above constitute the basis of intelligent farming and keeping of stock.—ED.]

YEOMEN in leather doublets may be of more worth than lords in velvet robes.



STEADMAN'S GRAIN AND GRASS SEED HEADER AND HARVESTER.

GRAIN AND GRASS SEED HEADER AND HARVESTER.

We herewith present our readers with an engraving descriptive of a new and improved clover, timothy, and other grass or grain seed header and harvester, which for simplicity in construction, efficiency of action, and facility of management, we think can not easily be surpassed. As will be seen by the cut, it is drawn by one horse, which walks outside of the part of the field intended to be harvested. Turning continually to the right, it cuts equally as well when turning a corner, as when going straight ahead. The seed heads are gathered by the comb, cut off by the revolving knives, and by a self-raking apparatus attached, thrown to the rear end of the box. By detaching the intermediate gearing wheel, it is immediately converted into a three-wheeled wagon, and can be driven wherever wished. By pressing down one or both of the levers shown on the rear end of the box, one or both sides of the comb and cutter may be lowered or elevated at pleasure. The peculiarity of the machine is that it cuts and saves only the heads of the grain or seed, and by an extra pair of wheels, it can be applied to the gathering and harvesting of any kind of grain or grass seed. It will cut from eight to twelve acres per day with ease. All the bolts in the machine are in sight with but one exception, and any common blacksmith or mechanic can repair it, if by accident it should get out of order. The above is the invention of Mr. T. S. Steadman, of Holley, Orleans county, N. Y., to whom communications as to the sale of rights and machines can be addressed.

Price of machine, with extra set of gearing wheels and cutters, $50.

To Keep Lettuce.—If the tops of lettuce be cut off when it is becoming too old for use it will grow up again fresh and tender, and may thus be kept good through the summer.

IMPROVED HAY FORK.

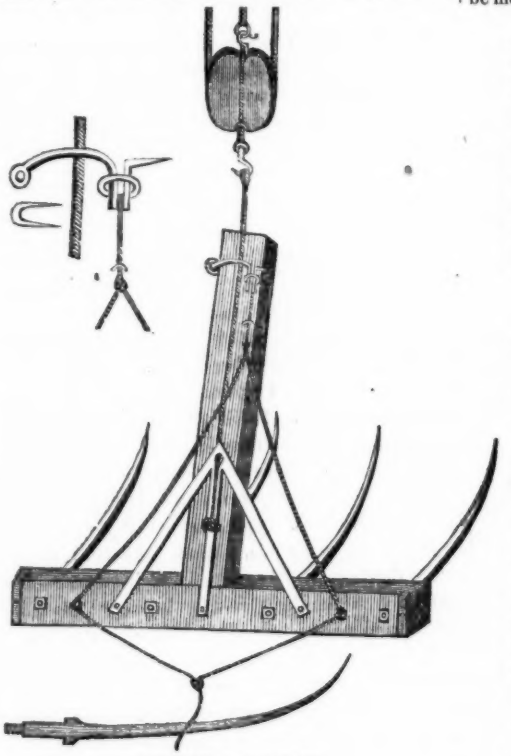
Much is said about economy, and yet how many there are who seem to think that economy consists in this: never buy an improved instrument or utensil while the old one will answer, though it may be cumbrous and ill-adapted to the work on hand. Every ounce of unnecessary weight in a hoe-handle, or in the body of the hoe, continually lifted by the laborer, as it is, amounts to many hundred weights in a day;—every pound of useless iron in a plow or harrow, when multiplied by the minutes, and hours, and days it has been used, is so much muscular exertion lost; and of all kinds of labor, the labor of a living machine is the dearest. Why, then, do not our tillers of the soil study to economise labor more than they do; and by the use of a little head-work abridge the severity and degree of the hard work which *must* be done on the farm?

The above thoughts were suggested to us while witnessing the ease and facility with which blocks of ice three feet square and sixteen inches thick were hoisted to an elevation of sixteen or twenty feet, and thence slid on properly adjusted slides to their respective places. A rope and two pulleys furnished all the machinery necessary for the application of animal labor to lifting of the masses of ice. The duty of the workman was not to lift the ice, but merely to attach the hooks and start the horse, which was the prime mover in this case; and when the requisite elevation had been attained, the word *whoa* gave opportunity for those above to detach the ice-hook; and thus the process was repeated for hour after hour.

Now, the labor of mowing away hay in a hot summer afternoon, in the close and dusty space usually allotted for its safe keeping, is work of the hardest kind, and of that description, too, which tries the sinews of a man, and sometimes lays the foundation for serious diseases. The labors of the hay and harvest fields are arduous and severe at the best; and

how often it is that a little over-exertion incapacitates one for useful labor the remainder of the season! As an illustration of our views on this subject, we herewith present our readers with a cut descriptive of an improved hay fork, which we copy from the *American Farmer*. A cut of a somewhat similar instrument has been given in a former volume of this journal; but with the improvement of the sliding catch made by Mr. STABLER, we do not know how a more efficient instrument can be desired.

"EDITOR AMERICAN FARMER:—In compliance with a request in the last number of the *Farmer*, I annex a diagram and description of the hay fork. We have had it in use several years, and, as now improved in



IMPROVED HAY FORK.

the mode of discharging the hay, I consider it not only a labor-saving, but also a time-saving machine.

"As originally made (for the plan of which I was indebted to a friend in New Jersey) the rope was fastened to the upper end of the handle; and although the hay was raised equally well, it was found tedious and laborious to work the trip cord; and very difficult, if not impracticable, to discharge the hay when and where desired on the mow. In this way, its operation was not at all satisfactory.

"By attaching the rope to the handle, six or eight inches from the head piece, instead of the upper end, and passing it along the handle, under the trigger, at this point, a slight jerk of the trip cord, held by the man on the wagon, instantly changes the fulcrum—of course the position of the fork—and the hay falls. The trip cord also serves to pull back the fork to the wagon.

"I am thus particular in describing both fixtures, as many inquiries have been made, and perhaps by some who use the original plan. A mere trifle in cost will add the improvement, and, as I think, nearly double its value.

"The 'tackle' is attached to the peak of the rafters, and directly over the center of the hay mow; the fall rope passes under and near the rafter, to a guide pulley fastened to the upper end of the door post, down by the side of the post to within a foot of the floor, and through another guide pulley; to this end of the rope is attached a swingle-tree, or hook, as may be most convenient in working a horse, or yoke of oxen.

"If properly managed, the fork will readily raise from four to six hundred weight of hay at a time (while a hand fork is moving the tenth part of it, perhaps); and when high enough, the horse stops. A hand or two on the mow, with forks, sway it backwards and forwards, to give an impulse in the desired direction, when the trip cord, by the strength of a finger, throws it instantly in a compact layer, as taken from the wagon. Considerably more hay can thus be mowed in a given space, with comparatively little manual labor, fewer hands, and in a third or fourth of the time. Very respectfully,

"EDWARD STABLER.

"Head of tough scantling 3½ by 4 inches, 3 feet 3 inches long, with bands at ends.

"Handle 3½ by 4 inches, 3 feet long, inserted at right angles, and braced with 3 iron plates ¼ by 1½ inches.

"Steel prongs ⅞ inches square at shoulder, set angularly in the head, and tapered to the point, 22 inches long clear of head, with screws and nuts at back end.

"As the handle does not raise vertically, the prongs should curve upwards considerably, so as to resist the hay.

"The trigger is very simple—an iron pin ½ inch diameter, bent at right angles, one end driven into the handle, projecting an inch, and ranging down the handle about 2½ inches. A curved iron strap with an eye, and confined at the opposite side by a small staple, passes over the rope, and the other end bent parallel with the pin; a small ring attached to the trip cord slips over both; the tension of the rope while hoisting, effectually fastens it, until the cord pulls off the ring.

The independent horse-rake, by means of which a lad of twelve years, or one unable to do a stout laborer's task, may rake up a dozen acres in a day, will pay for itself for neighborhood use in one season;—as also the revolving horse-rake, and the mowing machine, or reaper. True, these improved implements cost money; but where one is unable to buy for himself, let him unite with a neighbor or neighbors, and thus mutually contribute to each other's success.

LETTER FROM CHILI.

Mr. Editor:—It is difficult to give one a correct idea of Chili who has not seen the country itself. It (the country) consists of a series of plains or table lands running from north to south, each plateau becoming more elevated as you approach the Cordilleras, and divided by ranges of hills running parallel with the coast, also increasing in height. The hills and mountains are cut up into large and deep ravines, called "quebradas," which again have their sides cut by similar quebradas, and so on *ad infinitum*. The southern part of Chili is tolerably well supplied with large trees, which as you go north gradually diminish into shrubs, and near the northern boundary all vegetation disappears, and you find nothing but rocks and sand. Wherever there is water, there is more or less vegetation, but the proportion of streams is one to a million of "quebradas."

The productions are wheat, barley, a little corn, apples of very poor quality, hardly fit for swine, pears, peaches, plums, cherries, and oranges; besides which there are good grapes, melons, strawberries and figs, which in some parts of the country are delicious. The farming is done in the most primitive manner imaginable. The plow is the old fashioned crooked stick, and the oxen are always yoked by the horns instead of the neck. When the wheat has been cut down and gathered to the threshing place, it is put into a circular yard, enclosed by a high fence, and from ten to fifty horses (according to the size of the "corral") are turned in and driven about with yells and "carambas," until straw, chaff, and grain are of about equal fineness. The grain is separated from the chaff by throwing it into the air, and letting the wind do the work of cleaning. Fruits, and all natural productions are left to grow uncared for and untouched by the owner's hands or implements, and the grain would be left in like manner, if it could be sold without threshing.

Of the politics of the country I know but little, and care to know less: and as to the people, there must be some good about them, inasmuch as God made them, but I have found very little of it as yet. All the improvements that have been made, have been owing to the influences of commerce, and the more enterprising spirit of English and American residents.

The chief wealth of the country consists in its mines of gold, silver, copper, and coal. Gold is about equally distributed, silver is found principally in the northern parts of the country, copper in the central portions, and coal at the south. Silver mines are discovered as much by chance as by regular mining operations, while the copper mines require a large capital in order to carry them on successfully.

There are but two kinds of business here which promise successful returns, viz, mining and commerce. The former is proverbially uncertain, while the latter requires capital and an intimate acquaintance with the habits, customs, and prejudices of the inhabitants.

If you have any friends who think of coming this way, tell them to stay at home, unless they are anxious to see the "elephant" and "feel his tusks."

Yours, truly, M. A. J.

Lota, Chili.

HOW TO CATCH GOPHERS.

Mr. Editor:—Where gophers are at work and the hills recent, say made the previous night, open the hill and expose the burrow about a foot in length wide enough to let in a common steel rat trap; clean out the dirt nicely, and excavate a space at the bottom of the burrow deep enough to receive the trap, already finely set, so that the jaws and treadle will be slightly below the plane of the bottom of the burrow; cover the trap very lightly with finely pulverized earth, so that the top of the earth over the trap and the bottom of the burrow be on the same plane; cover the hole with a board, broad and long enough to prevent any other dirt from falling on the trap; haul fine dirt all around the edge of the board to exclude all light. Teach the boys how to do it right, and give them a dime for each gopher caught. I speak from experience, and this is the best way I know of. Other ways are, open the hole by the side of the hill, when the gopher will shortly bring dirt to stop it up—shoot him. When the earth is full of water, they occupy chambers in their mounds—dig them out. Sink a jar glazed inside one foot deep in the bottom of the burrow, in lieu of a steel trap; cover its mouth with cabbage leaf or its equivalent, and finish as directed for steel trap. They will fall in, and can not get out without help. Dose apples or potatoes, &c., with strychnine, lay them in their burrows, and exclude the light. Thos. Siveter.

Salem, Iowa.

Mount Hood, in Oregon, has now been ascertained, by actual measurement, to be full eighteen thousand three hundred and sixty-one feet high. This is the highest peak on the American continent, and one of the highest in the world. From this peak, mountain tops five hundred miles distant may be distinctly seen. The mountain is volcanic, smoke being seen to issue from its summit.

CANADIAN SHEEP HUSBANDRY.

Mr. Editor:—I wish, through the medium of your paper, to address a few lines to our Canadian farmers on the subject of sheep. We have several varieties of sheep in the country, including the Leicester, South-Down, Merino, Canadian, and all the various crosses. Now, the question is, what is the best breed for our farmers to keep? Here there is, and will be, a difference of opinion;—some preferring the pure Leicester, others the South-Down, others a cross between these two. The latter, I believe, is really larger and more easily fattened than the Leicester and the wool is somewhat finer. The South-Down is an easily-kept sheep, and yields a fine fleece, but the carcass is small. The manufacturer of woo greatly disapproves of the cross between the Leicester and the South-Down, inasmuch as it does not improve the wool. The wool in this cross is harsh, lacking oil. The best stock of sheep for Canada is a cross between the French Merino and the pure Leicester. By this mixture you have a hardy sheep, of good size,—one easily fattened, and the *very best* quality of wool, both for the Canadian and for the American market. The Leicester sheep is quite defective in the amount of oil in its fleece, while the Merino has a superabundance, by which means it is enabled to endure the cold storms of rain much better than the Leicester. From this cross you therefore obtain a long, fine and soft wool, suitable for making up into Orleans cloth, and goods of that class, while it is just the thing for good Canadian cloth. Now, in order to have such a stock of sheep as the above, it is needful that some parties should continue to raise and import the two kinds in their purity—that is, the French Merino and the Leicester. A goodly number are to be found who have done good service to our country, and honor to themselves, by importing and raising the pure Leicester sheep. A few persons have directed their attention to the French Merino sheep, and in getting them have spared no trouble or money. Mr. Jacob Rymal, Jr., of the township of Barton, is one of this class. He has some of the pure French Merino sheep, and I think has one or two for sale. Mr. Rymal obtained a number of premiums for his sheep at our last Provincial show.

Many of our farmers would do well to direct their attention chiefly to sheep husbandry for two or three years; in so doing they would rest and enrich their land, and, I doubt not, themselves also.

I might here state the comparative value of wool. Supposing the Leicester wool to be worth 1s. per pound, then South-Down is worth 1s. 3d; a cross between the South-Down and the Merino, 1s. 6d.; also the cross between the Merino and Leicester would be worth 1s. 6d., and the pure Merino at that standard would be worth from 2s. to 2s. 3d. per pound.

Wool growers should never allow their sheep to run where there are burrs, nor should they shear them without having first washed them clean; because either of these defects deducts from the value of the wool from a quarter to one-third.

A buck should never be allowed to run with the same flock more than two years, and it is better to change every year. The entire flock should be changed every three or four years. S. King.

POTATO PLANTER AND SEED DRILL.

Mr. Editor:—As I am confident that you are anxious to do all in your power for the purpose of introducing labor-saving machines among the agriculturists of this Province, I have thought that it would be in some degree interesting to your readers to have a short description of an invention lately patented by Mr. William Nixion, of the township of Grimsby, in the county of Lincoln. Mr. Nixion's invention is for the purpose of cutting and planting potatoes, dropping corn, and sowing small seeds.

The hopper, or box for containing the potatoes, rests upon the axle passing through two wheels, with shafts attached to the axle in the same way that a cart or gig is constructed. A horse is then put before the planter, in like manner as a horse is placed before a cart, and the machine is drawn in the same way. The seed hopper rests upon the axle and wheels, as above described, being keyed together and fastened to a cog wheel which drives a horizontal cog wheel that is fastened to the underside of the cast-iron seed-wheels. When, therefore, the horse moves forward, the whole machinery is set in motion. There is a round bottom to the hopper that revolves correspondently with the motion of the animal which draws the vehicle. In this bottom, or revolving platform, there are holes at given distances. For planting in hills you open two holes, and leave all the others shut up; and in this case four or five sets are dropped in one place, at whatever distance you may think proper, the seed being cut by a sharp knife placed immediately under the revolving platform. Some might prefer to cut the sets by hand, and in this case the knife may be removed, or the potatoes may be dropped without being cut. If drills

are considered preferable to hills, the two large holes are plugged up with leather sheeted with tin, and the plugs, made of the same material, taken out of the smaller holes. The seed is then poured into the hopper, the horse moves, the sets are cut, and dropped at regular distances. For planting corn, there is another set of smaller holes, by means of which corn may be planted in hills or drills upon the same principle as the potatoes are planted. For fine seeds, such as onion, turnip, carrot seeds, etc., there are tin canisters with holes suitable for sowing such seeds. In connection with the other wheels, there is a seed-wheel by which the whole is regulated.

Underneath the planter is a large tooth, like that of a cultivator. This tooth makes a suitable place for the seed to fall into, and is placed in front of a hollow sheet-iron tube, through which the seed falls to the ground, and behind the tube are two scrapers so constructed as to cover up corn or potatoes, and two small brooms are used for the purpose of covering up the smaller seeds which drop from the tin canisters. To this part of the planter there is a set in the rear of the hopper, by means of which the drills can be made deep or shallow, as the farmer thinks proper. The whole machinery is simple, and I think will be very beneficial to the farmers of Canada.

In a country like this, it is necessary that the farmer should produce large crops with the least possible expense. Laborers are scarce and wages high; consequently all labor-saving machines should be used to the best advantage. And indeed, they ought to be introduced at once; for, should the present war continue in Europe, it will be nearly impossible for farmers to procure men at any price to put in and take off their crops.

If Mr. NIXION's seed drill proves as useful as it promises—and of this I think there can be no doubt—several acres of corn or potatoes may be planted in one day with two men and a horse, especially where the land is properly prepared, and the soil is light. Few articles now produced remunerate the cultivator better than corn, potatoes, turnips, and carrots. Wheat, certainly, is the great staple of the country, and should be cultivated in the best samples and the largest possible quantities for exportation; but for home consumption, and for feeding cattle, sheep, and swine, our farmers should raise every bushel of corn, oats, peas, potatoes, beans, carrots, and turnips that it is possible for them to grow, as stock and produce of all descriptions will be likely to bring largely remunerative prices for several years to come.

Mr. J. W. H. SCHNEIDER, of this city, has bought out Mr. NIXION's right to the Province of Canada, and consequently the power to authorize parties to manufacture the seed drill, now rests with him.

HAMILTON, C. W. THOMAS WEBSTER.

CULTIVATION OF BARLEY.

MR. EDITOR:—The time has been when farmers in this county (Schoharie) could raise barley almost beyond measure, and with comparatively little labor. But from some cause or causes known to but few, the yield has gradually diminished from year to year, until the present time. Some who formerly grew it in large quantities, do not now sow it at all; and many upon being asked to assign a reason why it will not yield as well as it once did, simply reply, "I do not know," or else attribute it to the seasons. The true cause will of course appear obvious to all who know that the productions of any soil are composed in part of the same ingredients as the soil upon which they grow. Hence the cause of the failure of the crop in question. The ingredients necessary for its production have been exhausted by too much cropping. The first thing necessary to be known in regard to a difficulty is its cause; the second is a remedy which will remove that cause. Now, will some one tell us through the FARMER what this remedy is, and the proper way to apply it? And, as in this case nature is exhausted, the remedy must be supplied, in a measure at least, by artificial means. Therefore, when we know the ingredients composing the grain, we know what is necessary to produce it. When we take into consideration the manner in which farming has been conducted in some sections of this country, it is to be wondered at that the natural fertility of the soil is not entirely exhausted. It has been plow, plow, plow, from four to six inches in depth, and carry the produce to market; and no doubt this will be the case to a great extent until the soil does refuse to produce, or until farmers are well enough acquainted with the chemical properties of soils and their productions to take a scientific view of the matter, and to see nature as it is.

MIDDLEBURGH, N. Y. M. GARNSEY.

TO KEEP CROWS FROM CORN.—Take a quart of train-oil, and as much turpentine and bruised gunpowder; boil them together, and when hot, dip pieces of rags in the mixture, and fix them on sticks in the field. About four are sufficient for an acre of corn.

MANAGEMENT OF THE DAIRY.

Statement of WILLIAM S. LINCOLN to the Committee of the Worcester Agricultural Society, appointed to award the premiums for Dairies, offered by the Massachusetts Society for Promoting Agriculture.

GENTS:—As a competitor for the premiums at your disposal, I offer for your examination, twelve animals constituting my dairy. One other cow has been kept with these during the summer, but as she has been kept exclusively for the use of my family, she is not exhibited. Having determined, early in the season, to become a competitor for our own society's premiums for dairies, it was necessary to divide my stock; and the milk of each, and the product of such milk, has been kept separate during the assigned period of five months.

Informed by the circular issued by authority of the board of trustees, that the purpose was to "encourage the better attention to the business of the dairy, and in return for its premiums, to secure the most varied and largest amount of information in its successful and faithful management," which purpose was best to be promoted by leaving each competitor to pursue his own course of management, at the peril that some other mode might "prove more productive under the conduct of some other competitor." I deemed it best, and likely to be more satisfactory, to keep along in my regular system, deviating in no degree from that course which is practiced by me every day of every season.

Thus the committee will perceive that I render no account of the quantity of milk, either in weight or measure, yielded by any one or more of my cows, for any one or more days. For, though a statement that a cow has given a specified number of quarts or pounds of milk for a given number of days, might gratify the curious in statistics, the experience of no inconsiderable number of years has convinced me that such was of *no value* in testing the worth of an animal for *butter*.

The return, then, which I submit, will be merely a statement of the mode pursued by me in the management and feeding of my stock, of the care of the milk, with the dairy utensils, and the amount of butter produced during the required period of trial.

The trial began on the 25th of April last, before turning to pasture.

Management of stock while stalled.—In the management of my stock, the utmost gentleness is observed, and EXACT regularity in the hours of feeding while confined to the stable, and of milking throughout the year.

The stock is fed regularly three times a day.

In the morning, as soon as the milking is over, each cow (having been previously fed and her bag cleaned by washing, if necessary), is thoroughly cleaned and groomed, if the expression may be used, with a currycomb, from head to foot, and when cleaned, turned out to drink. The stable is now cleaned out, the mangers swept and the floors sprinkled with plaster, and as the cows return, which they do as soon as inclined, they are tied up and left undisturbed until the next hour of feeding, which is at noon.

The cattle at this time are again turned out to drink, and after being tied up on their return, again fed. Of course the stable is at this time again thoroughly cleaned. And so again at night, the same course is pursued. At this time a good bedding is spread for each cow, and after all are in, they are fed.

At six o'clock the milking commences, and at its termination, after removing from the floor whatever manure may have been dropped, the stable is closed for the night. If carrots are fed, which is the only root allowed to my cows in milk, they are given at the time of the evening milking.

Whatever material is taken for bedding (such as corn-stalks, husks, &c.) is passed through a cutting machine, and composes the noon feed—such portions as are not consumed by the cows being used for bedding. The additional labor of cutting up is amply compensated by the reduced amount of labor in working (loading) and plowing under the manure.

While I consider it highly desirable that the cows, during the period they are stabled, should be kept warm and *dry*, I regard it as indispensable that they should be perfectly clean; and although the stock is stabled the whole time, care is taken that there is a sufficient degree of ventilation.

Milking.—As before observed, this takes place throughout the year at six in the morning and six in the evening.

As a general rule each cow is milked separately, her milk strained and set separately. With heifers this is invariably done; as I believe there is no other reliable mode of determining the value of an animal for *butter;* and in this way, and a separate churning also, is it determined whether to retain in my dairy or sell to some milk-man such heifers as I may raise.

The same regularity is observed in the order in which the cows are milked as in the hours of milking.

The milk as soon as drawn, is taken to be strained and carried into the *milk-room*. Here it stands from twenty-four to thirty-six hours, in some months of the year, forty-eight hours, at which time it is removed to an adjoining room to be skimmed. In this way the room is free from those odors which always follow the spattering of milk or cream upon the floor or shelves of the dairy. We mean to skim *sweet* milk.

The milk-room is upon the second floor of the house, and running its whole width, ventilated by windows at the north and south, and in the winter months warmed to a proper degree by a stove.

Tin pans are used in which to keep the milk, filled generally to a depth of two or two and a half inches.

The cream as it is skimmed is poured into stone pots, which in warm weather are kept in a refrigerator, and during the winter stand in the milk-room.

The *times* of churning depend upon the quantity of cream. During this summer there have been four churnings a week.

The time usually occupied in churning is from fifty minutes upwards. This is deemed a matter of importance. I consider it much preferable to bring the cream to the degree of temperature necessary to the formation of butter by a *steady*, moderate agitation than to use artificial heat to take it to that point before commencing to churn. By such moderate, long-continued agitations, we think the butter has a firmer, more *waxy* consistence than it can have by more rapid churning. The churn used is "*Galt's*." Numerous trials have been made with many of the

other kinds of churn in comparison with this, and the result has been uniformly favorable to this pattern.

When the butter has *come*, the buttermilk is drawn off, and the butter, after being thoroughly worked, is salted with from one-half to three-fourths of an ounce of salt to the pound. It is now set away for twenty-four hours, when it is again worked over thoroughly, and made into pound lumps with wooden "spatters." After standing another twenty-four hours it is sent into market.

In "*working*" butter we use a table over which a fluted roller is made to pass, rolling out butter into a thin sheet, and completely and entirely depriving it of buttermilk.

From many years' experience, the observation is warranted that by no other process of manufacture can the buttermilk be so completely extracted. I am aware of the truth of the objection made that the shrinkage occasioned by its use is too great, yet there is, in fact a difference in the worth of the butter made upon it, over that manufactured in the ordinary way, quite equal to the loss in weight occasioned by it.

As has been stated, my stock was divided at the beginning of the trial, into two lots of six each. The account of the product of butter is given according to this arrangement.

The entries for the premiums at your disposal, as made by me on the 23d day of April last, were one dairy of six cows and heifers, six in number, and a dairy of eleven in number.

Such a division of my stock was not deemed improper in view of their time of calving and their age.

The dairy of cows consists of

Flora McDonald, a full blood Ayrshire, from the stock of Mr. RANDALL, of New Bedford, 6 years old.
Wilcox, half Ayrshire, by McGregor, 5 years old.
Shrewsbury, called native, believed to be Durham, 11 years old.
Cherry, Devon, 6 years old.
Lexington, Ayrshire, bred by Mr. Phinney, of Lexington, 9 years old.
Springfield, native, from Vermont, 10 years old.

Flora	calved May 20th,	and was served	July 29.
Wilcox	" April 17th,	"	" June 5.
Shrewsbury	" Feb. 26th,	"	" July 2.
Cherry	" May 24,	"	" June 30.
Lexington	" Jan. 28th,	"	" July 18.
Springfield	" May 24,	"	" June 10.

It will be seen that the trial commenced with three of the six cows giving milk. The periods of churning, and the quantity of butter made at each time, is stated below:

Churned.	lbs.	oz.	
May 1	19	2	
" 8	20	3	
" 15	32	5	
" 22	39	13	
" 29	44	9	—156
June 1	25	7	
" 8	56		
" 12	32	14½	
" 15	24	9½	
" 19	29	9	
" 22	21	13	
" 26	28	7	
" 29	21	8	—240 4
July 3	27	15	
" 7	18	11	
" 10	24	2	
" 13	16	8	
" 17	22	7	
" 20	15	8	
" 24	18	5	
" 27	14	7	
" 31	18	14½	—176 13½
Aug. 3	13	6	
" 7	17		
" 10	17	5	
" 14	25	8	
" 17	18	11	
" 21	23	5	
" 25	14	9	
" 28	17	9	—147 5
Sept. 4	36	7	
" 11	34	9	
" 18	32	15	
" 23	30	3	—134 2
			854 8½

It will be seen that three of the cows have been milked 5 months, two 4 months and 17 days, and one 4 months and 2 days. In all there has been an average period of milking of 4 months and 21 days, and an average daily amount of little over a pound of butter to each cow, for the whole period of entire milking. The greatest amount in any one week was 57 pounds, 8 ounces—or an average yield of 9 pounds, 9½ ounces per cow for the week. This upon pasture feed alone.

The lot of young cows and heifers consists of

Lexington, 5 years old, thorough-bred Ayrshire, bred by Mr. PHINNEY, of Lexington.
Princess, 3 years old, with her first calf, a half-blood Ayrshire and half Devon.
Cora, 5 years old, three-fourths Ayrshire, and one-fourth Durham.
Red-Bird, 4 years old, one-half Devon and one-half Ayrshire.
Flirt, 5 years old, one-half Ayrshire by McGregor.
Beauty, 2 years old, three-fourths Ayrshire.

Lexington	calved Feb. 4,	and was served	March 15.
Princess	" March 25,	"	" June 10.
Cora	" May 2,	"	" June 5.
Red Bird	" June 19,	"	" Aug. 14.
Flirt	" June 26,	"	" July 18.
Beauty	" Aug. 2,	"	" Sept. 1.

In this case the trial commenced with but two animals giving milk. The periods of churning and the product of butter of each churning is given below.

Churned.	lbs.	oz.	
May 1	8	6	
" 8	9	4½	
" 15	12	12	
" 22	18	13	
" 29	21	11	—70 12½
June 5	26	13	
" 12	19	15	
" 15	9	11	
" 19	13	1	
" 22	12	4	
" 26	16	3	
" 29	13	12	—111 11
July 3	21	12½	
" 6	15	14	
" 10	19	7	
" 13	14	1	
" 17	18	11	
" 20	12	12	
" 24	16	5	
" 27	13	1	
" 31	16	13	—148 12½
Aug. 3	12	8	
" 7	16		
" 10	16	10	
" 14	22	3	
" 17	16	14	
" 21	19	15	
" 24	11	7	
" 28	15	14	—131 7
Sept. 4	31	5	
" 11	27	8	
" 18	27	11	
" 23	28	7	—114 15
			577 12

Of this lot two animals have given milk the whole period; one 4 months and 17 days; one 3 months and 2 days; one 2 months and 26 days; and one 1 month and 17 days; making an average period of 3 months and 20½ days, and an average daily yield of 0 lbs. 14 10-12 oz. butter to each cow for the above period. The greatest amount of butter in any

one week of the above period was 37 lbs. 10½ oz., from five cows, or an average of 7 lbs. 8 oz. to each animal. This was also upon pasture solely.

Should the committee be of opinion that this division of the dairy is not in compliance with the spirit of the offer, the average period of time of be milking the cows comprising the whole dairy, will four months and a little more than twelve days, with a total yield, for said period, of 119 lbs. 8½ oz. to each cow.

In addition to this product, 9 calves have been raised, and 3 sold to be fatted; 5 shoats have been sold for $40; 2 pigs at $10, and there are now on hand 5 late spring pigs, 3 old hogs and 4 sucking pigs. The swine were kept exclusively upon the wash of the dairy and house till the last of August; since that time a small quantity of refuse apples have been added to their food.

The pasturing was good, early in the season, so far as quantity went. But although its quantity was sufficient, it was of poor quality for the purpose of the dairy.

My pastures are upon the south slope of a hill, early to start, but easily affected by drouth. This year the feed has been unprecedently short, and for weeks my animals might almost be said to suffer. There was no green thing in the pastures, nor would the mowing-fields afford a bite. I had no corn fodder till about the fifth of August, and then so limited a supply that it was consumed in about three weeks.

The season as a whole, has been a bad one, below the average, for the production of butter. Additional to this, my own dairy has suffered from a change of milkers. Men to work on a farm have been scarce, of actual *help* there has been none. Early in the spring I was incapacitated from milking, and continued so for months. My cows were badly treated, and worse milked. As an instance, the week after I was compelled to give up milking, although one more cow was milked than before, the yield of butter was diminished eight pounds and a fraction.

I ought also to state that from the first of August one milking of one of the cows has been taken from the dairy for family consumption, thus diminishing what would have been the actual yield of butter from the whole dairy. A sample of butter as ordinarily made is submitted for the examination of the committee. WM. S. LINCOLN.

COMMONWEALTH OF MASSACHUSETTS.—Worcester, September 25, 1854, then appeared the above named WILLIAM S. LINCOLN, and made oath that the foregoing statement, by him subscribed, is true. Before me, JOHN A. DANA, *J. P.*

Omitting fractions, my dairy of six cows, had they been milked the full period of five months, at the rate of yield for the time of actual milking, would have given 920 lbs. 4½ oz. of butter. It will be remembered that that this was upon pasture feed alone.

Different families in this city, and at Boston and Dorchester, have been supplied by me the past season; and the average price of the butter has been two shillings per pound, amounting to $396.75; or $61.58 per cow for the five months. W. S. L.

THERE are more than fifty places of Protestant worship in the Turkish empire, protected by government, where the gospel is statedly preached.

HAY CAPS.

MOST farmers are doubtless aware that on an average one-fourth of the value of all hay gathered, is lost by its exposure to rain and heavy dews. This loss may be saved by simply being provided with a supply of hay caps. These are made of pieces of cotton sheeting, say a yard and a half square, with the torn edges hemmed, and a loop of tape or string sewed upon each corner. They would be rendered more effectual if slightly coated with oil; or by dipping in water made quite milky with chalk, or whiting, and after drying, dipping them into alum water. If prepared in the latter manner they will shed water quite freely.

When grass is cut down and put up in small stacks of two to four hundred pounds each, it can then be protected by one of these cloth coverings, the corners of the cap being fastened down by thrusting little wooden pins through the loops into the sides of the stacks. Protected in this way, hay can stand in the field unharmed through rain and dews till it is thoroughly cured. Let us estimate briefly the cost and profit of this process.

If we allow one of these caps for 200 pounds of hay, ten will be required for a ton. As the cloth may be quite coarse, the expense of each will not exceed fifteen cents. The caps may be used two or three times in a season, and if taken care of they will last for five or six years, or longer, and then the paper makers will buy them at one-fifth of first cost; so that every two caps, costing twenty-five cents, will serve for curing at least a ton of hay. No one will deny but that hay thus cured will *on an average* be worth at least a dollar more on the ton, than if subjected to the usual damage of rain and dew. We advise every person raising hay to prepare a few dollars' worth of these caps during this leisure month, and have them laid away in readiness for the haying season. The same caps may be used to protect shocks of wheat and other grain. They will very often pay for themselves in a single season. If not quite satisfied as to their utility, prepare twenty or thirty of them and try them one season, and see if they do not pay. If they do not, the cloth will not be lost. There is no particular necessity for any preparation added to the cloth, as a piece of simple cotton thrown over a rounded hay-cock will generally conduct off the heaviest shower of rain.—*American Agriculturist.*

REARING CALVES.

THE almost unprecedented prices of beef, have induced more attention to the rearing of cattle. The scarcity of beef is owing to various causes which have been operating for some time. A considerable portion of the country in which cattle have formerly been fattened to a great extent, has for two years or more suffered much from the effects of drouth. In consequence of this, the farmers have been under the necessity of selling their stock—often at large sacrifices—the scarcity of hay permitting them to keep but a small portion of their usual herds. In the Western states, large numbers of cattle have been driven to California and Oregon, instead of being fattened and sent to the eastern markets. In some

instances, wool has taken the place of beef as a farm product, and in others the latter article has given way to butter and cheese.

Beef is not an article which can be produced in a season. Pork can be brought into market in abundance in a year or so from the birth of the pig. Mutton of good quality can be obtained in two years, and is sometimes had in a year and a half. But good beef requires three or four years, although with breeds which early attain maturity, many animals are killed at two and a half years old. Such young beef, however, has not the fine flavor, or so great an amount of nutriment, as that from more mature animals.

The high range of prices for beef will tend to impress upon farmers the importance of obtaining animals which will fatten to the best advantage. This is a point which has not generally received the attention it deserves, but it is to be hoped that the force of circumstances will compel farmers to study the natural characteristics of cattle, and make them better acquainted than they have been with the principles to be observed in the successful management of live stock.

The manner of rearing calves will, properly, vary in different districts. Where milk is of little value, it is common to allow cows to suckle their offspring for the first four or six months. Sometimes one cow is the foster mother of two calves. This is, perhaps, the best course under the circumstances, but it would not be economical in other situations. We prefer rearing them *by hand*, as it is called, where it is an object to use milk for other purposes, for the following reasons: 1. Food can be given with more exactness as to quantity. 2. In many instances it economises food. 3. It is generally less trouble. 4. It saves injury to cows' teats and bags by the biting and butting of the calves. 5. The calves more readily learn to eat various kinds of food. 6. They are more tame and gentle as they grow up—if cows, they are less likely to be troublesome in milking; if oxen, more tractable and obedient. 7. From being early and thoroughly weaned from the cows, the calves can run with them, if necessary, through the season, and rarely occasion trouble by sucking.

The calf should be taken from the mother the day it is born, unless it is advisable to have it suck for the purpose of relieving the udder from inflammation. It should have new milk the first three weeks—six to eight quarts a day, according to size. It may then be fed for three weeks on a mixture of new milk and skimmed milk, three quarts each, daily. The skimmed milk must not be sour. To the milk may be added gruel made by boiling a pound of oilcake in a gallon of water. The gruel should be given in small quantities at first, till the calves get accustomed to the taste. They will soon become fond of it, and will eat a pound of cake each, daily, prepared in gruel well mixed with the milk. Give the food in equal parts, at six o'clock in the morning and six in the evening. In cool weather it should be warmed to the temperature of milk just from the cow. After the calf is six weeks old, the new milk may be discontinued, substituting that which has been skimmed. The skimmed milk and gruel should be continued till the calf is about three months old, when it can live well on other food. For the last two or three weeds of the time, the gruel can be gradually increased, and the milk diminished. If oilcake cannot readily be procured, oat-meal, or meal from oats and peas ground together, may be used for the gruel. This is better than meal from Indian corn, contains more of the elements of muscle, is easier of digestion, and less likely to produce *scours*.—*Boston Cultivator.*

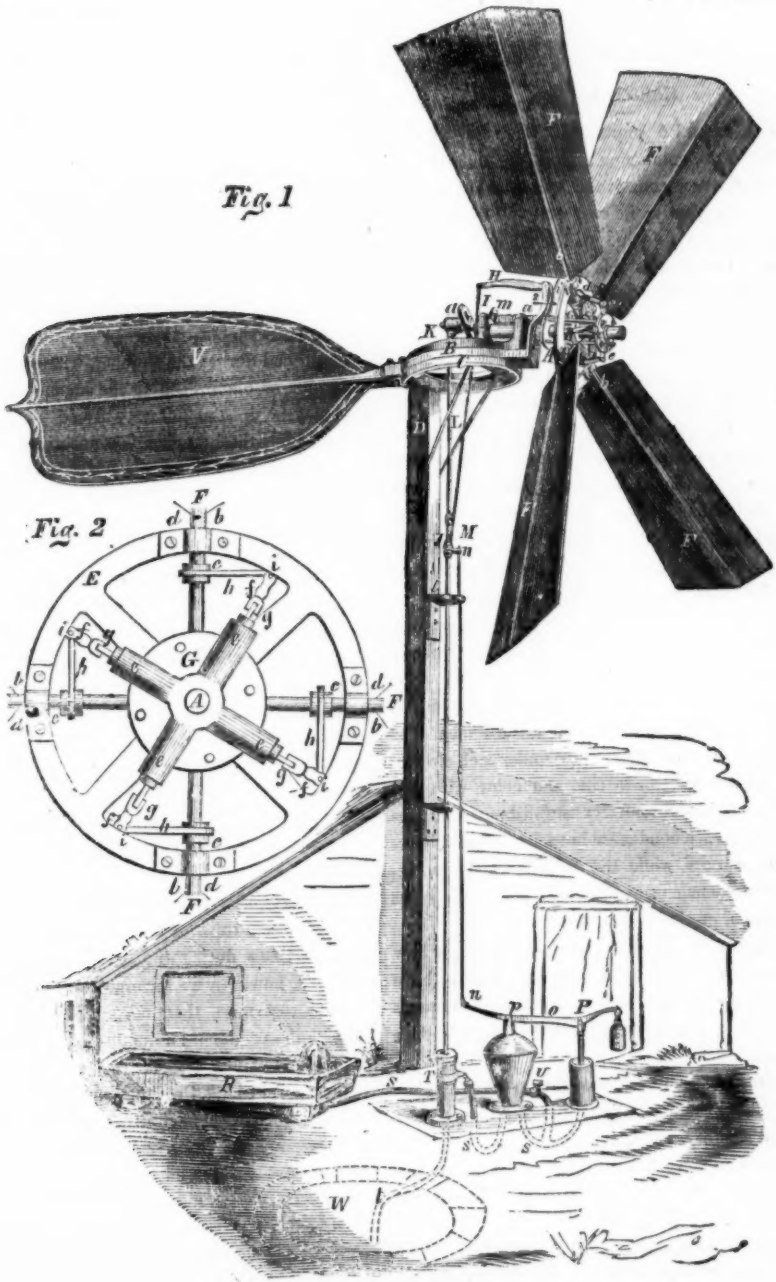
HALLADAY'S WIND-MILL.

This machine, of which the accompanying engraving will be found to give a very good representation, attracted general attention at the New York State Fair, held last fall. "The nature of the invention," in the words of the *Scientific American*, "consists in having the wings or sails attached to movable or rotating spindles having levers or equivalent devices connected to them, said levers being also connected to a head with wings rotating on the same shaft. The head has a lever connected to it, which is operated by a governor that slides the head upon the shaft, and causes the lever or their equivalents to turn the wings or sails, so as to present a proper resisting surface to the wind, and thereby produce a uniform velocity of the sails, which are made to have a greater or less obliquity, according to the velocity of the wind."

In the engraving given, fig. 1 represenrs the perspective view, and fig. 2 is a face view of the wing or sail ring, and parts of the governor. The same letters refer to like parts in both. The upward pressure of the water upon the piston P, is regulated by the amount which is allowed to pass the cock at U. As this quantity is lessened, the action on the lever at P is of course increased, and by the raising of this arm the sails are brought to present less obliquity to the wind, and thus to accommodate themselves to the amount of water wished. Hence, when the cock U is guaged to a given stream of water, any gust of wind accelerating the motion of the sails, will also increase the pressure at P, as it cannot enlarge the stream, and this increase of pressure will as before lessen the power of the wind upon the sails, by diminishing their obliquity, and thus every change in the wind will find the sails exactly adjusted to its force. A sudden gust may, it is true, make them revolve once or twice with great rapidity, but it must partake more of the nature of a hurricane than of an ordinary storm, to damage the mill, before the governor, which we have described, can accommodate the inclination of the sails to its force. We were told by the inventor that it would stand any gust which the support was able to resist.

With these few words of explanation, we think our readers will find no difficulty in understanding the workings of the machine. It is certainly very ingenious and promises well.—*Country Gentleman.*

Feeding Milch Cows with Sainfoin.—The quantity of milk produced by cows fed with sainfoin is nearly double to that of any other food. The milk is also much richer, and will yield a larger quantity of cream. The butter will also be better colored and flavored than any other.



HALLADAY'S WIND-MILL.

Horticultural Department.

CONDUCTED BY JOSEPH FROST.

HARDY ROSES.

The rich, exquisite fragrance of the rose, its varied and perfect form, combining among the different varieties almost every conceivable color, makes it a favorite with everybody; its easy cultivation, too, thriving, as it does, in a degree under all sorts of maltreatment, which makes this flower, of all, the most popular. Necessary as is this plant to ornament our grounds, yet comparatively little is known of the different species, and much less care is given its cultivation. In fact, there is no flowering plant, in proportion to the extent of its cultivation, that receives worse treatment. It is placed in hard, unprepared ground, with a retentive subsoil, and frequently in borders adjacent to the walls of buildings, containing earth thrown from cellar bottoms, freely intermixed with stones and lime, and fully exposed to the scorching rays of the sun in midsummer, where it is expected to flourish. Then its after culture produces the finishing touch. Should the plant be able to produce any branches, they are allowed to crowd and choke each other, wholly excluding the light and air. If it were suggested to prune as a means to produce fine blooms, it would be considered an absurd idea. The result is that the flowers produced under such circumstances, are very inferior in size and color, with but few blooms. Whatever nursery establishment receives orders for a garden conducted in such a manner, bears the entire censure, while the fault is wholly the neglect and mismanagement of others, and entirely out of the control of the commercial florist.

There are, however, many amateurs who know how to cultivate roses, and who take the pains to have them in the greatest perfection; which amply rewards them for the care and attention that is given to their cultivation.

Whatever treatment one may give roses *after* they are planted, all the results in cultivating them will be very unsatisfactory, unless the ground in which they are expected to flourish is properly prepared. Wherever it is intended to make a plantation of roses, the ground should be firstly well drained, (if not naturally a porous soil), and spaded or trenched to the depth of two or three feet. As no soil can be *too rich* for the rose, a quantity of well rotted compost or manure should be thoroughly mixed in the earth before planting. Every autumn rich compost ought to be placed thickly about the stems of the roses, and upon the approach of spring spaded or forked into the ground.

It is far more essential that roses should be pruned, to have a profusion of fine flowers, than to prune any variety of fruit trees that they may be more productive. This should be done during the latter part of March or the beginning of April. All of the preceding years' growth should be cut off, leaving only three or four eyes, which would throw out as many vigorous shoots, producing a quantity of fine blooms. Long established plants, having stunted or old wood, should be cut out entirely, protecting only the young and vigorous shoots. Hybrid Perpetual roses require to be pruned during the summer, which will insure a succession of blooms during the summer and autumn. This may be done as follows: As soon as the flowers fade in June, the branches that sustained the blooms (the flowers of which are always produced at the extremities of the shoots) should be cut back to two or four eyes, leaving them to push and form branches again. By pursuing this course the plants may be kept in a neat form, and produce flowers in the greatest profusion during the season. This class embraces the most beautiful and desirable roses. They comprise the different colors, from a dull white to a bright crimson or dark purple. They are all perfectly hardy, too, and will endure our coldest winters unprotected,—very vigorous, and blooming at intervals from June to November.

Our stool ground of this class, containing hundreds of plants, has remained wholly unprotected during this severe winter, and they all appear to be uninjured.

Moss roses are all very hardy, blooming but once, excepting some three or four sorts, said to flower two or three times during the season. Under ordinary treatment, however, we have not been able to bloom but one sort more than once. This was *Blanche Perpetual*—producing a number of fine flowers during the end of last season.

The Hybrid China, Provence and Hybrid Provence, Hybrid Bourbon, French roses, Austrian or yellow roses, microphylla roses, &c., bloom only in June. They are highly esteemed, being very hardy, generally very vigorous, some making such rapid growth as to be termed pillar roses. They are cultivated very much, as they contain many varieties possessing quite distinct colors and forms from any in the Hybrid Perpetual class,—as the *Persian*, yellow; *Aureti*, dark velvety-purple; *Madam Hardy*, pure white; striped roses, &c., &c.

The Ayrshire, Michigan or Prairie roses, &c., are esteemed for their climbing habits, growing frequently twenty feet in a season. They are admirably adapted for covering arbors, walls of buildings, &c., presenting a most beautiful sight when covered with perfect blooms of various colors. They flower only in June.

None of the following are considered hardy roses, as they need protection more or less during winter: Bourbon, Tea, Chinese or Bengal, and Noisette roses. Some of the Bourbon will stand without much care. It is one of the finest and most esteemed classes, and blooms continually. The Tea roses mostly have the fragrance of the tea—free growers and well adapted for pot culture. The Chinese are fine for bedding out in the spring, as they bloom incessantly in the summer and autumn. The Noisette roses are quite similar in character to the Tea rose, excepting fragrance and their cluster blooming habit.

It will be seen that we have made a selection of some of the best varieties in the various classes, taken from a collection of more than 300 sorts.

COLLECTIONS OF ROSES.

The following sorts of roses of the respective classes will be found upon trial to be among the very best now in cultivation.

HYBRID PERPETUAL.

Augustie Mie, Mad. Laffay,
Baronne Hallez de Clapa- Mad. Lamorciere,
rede, Mad. Freideaux,
Baron Prevost, Marquis Broccella,
Blanche, Mistress Elliott,
Caroline de Sansal, Olivier de Serre,
Dr. Marx, Pius IX.,
Duchesse de Nemours, Prince Albert,
Giant of Battles, Souvenir de la Reine des
Jacques Lafitte, Belges,
La Reine, Sydonie,
Louis Bonaparte.

MOSS.

Common Moss, Nuits d'Young,
Cristata, Princess Adelaide,
Luxembourg, Purpurea Rubra.

HYBRID CHINA.

Aureti, La Fourterelle,
Cerisette, Madam Hardy,
Geo. IV., Mad. Plantier.

PROVENCE AND HYBRID PROVENCE.

Blanche Fleur, Unique Blanche,
Boule de Neige.

HYBRID BOURBON.

Charles Duval, Coupe d'Hebe.

FRENCH MOSS.

Boule de Nanteuil, Pearle de Panachesse,
Tricolor de Flandre.

AUSTRIAN OR YELLOW ROSES.

Harrison's Yellow, Persian Yellow.

AYRSHIRE ROSES.

Ayrshire Queen, Queen of the Belgians,
Bennett's Seedling, Splendens.

MICHIGAN OR PRAIRIE ROSES.

Anna Maria, Miss Gunnell,
Baltimore Belle, Queen of the Prairies,
Virginian Lass.

MISCELLANEOUS CLIMBING ROSES.

Felicite Perpetuelle.

BOURBON ROSES.

Duchesse de Thuringe, Hermosa,
Du Petit Thouars, Mrs. Bosanquet,
Glorie de Rosamine, Queen,
Souvenir.

TEA ROSES.

Bougere, Lutea,
Danthanos, Safrano,
Triomphe de Luxembourg.

CHINESE OR BENGAL ROSES.

Alice Walton, Clara Sylvain,
Buret, Indica Alba,
Lady Hamilton.

NOISETTE ROSES.

Aimee Vibert, Chromatella, (Cloth of
Lamarque, Gold.

HINTS ON GARDENING.

The garden, as a means of supply for the table, aside from its profit and utility, deserves much more care and attention than is usually given it. In the warm season of our climate, a free use of meat is apt to induce bilious diseases (so called): and nature herself in the succession of her fruits and vegetables gives us timely hints for our own conduct. But unless its products are of good quality and properly grown, the palate will reject them, how much soever one may be convinced of their utility.

In the first place, a garden soil, if not rich, must be made so by the application of suitable fertilizers. Next, the soil should, if possible, be a light rather than heavy loam. Sandy loams make earlier gardens than strong clay loams, though the produce of the latter in quantity may far excel the former.

To have a good supply of garden vegetables does not require so much *time* as many suppose, but only a little work at the proper time. Have your beds so

arranged that the hoe shall do most of your weeding. We have found it a great convenience in sowing seeds to take a piece of board from four to six inches wide, and about three feet in length, and bevel one edge to the shape of the letter V. Nail a handle of convenient length on the centre of the other edge, and then standing erect, you can mark out your rows in perfectly straight lines, by simply pressing the instrument into the earth; then sowing your seed, a light raking of the soil covers them effectually.

If you have not an asparagus bed, let not the present season pass without sowing seed; or, better still, transplanting roots two years from the seed into a suitable bed.

Onion seed should be sown as early as possible; a few days' delay may materially affect the size of the bulbs. Why it is we know not, but early sown seed is more apt to make good bottoms than seed sown at the usual time of sowing.

Select a warm spot, sheltered from north and east winds, and sow your early peas and lettuce.

Last fall, about the 15th of October, we sowed some lettuce seed, designing to have it just in leaf as cold weather should come on. As soon as sharp frosts came, we threw over the bed our pea-brush, and over the brush, old tomato, squash and cucumber vines. As soon as the snow disappeared the present spring, the lettuce was ready to grow; and the frost seemed to have had no effect upon its vitality.

But while we recommend early sowing of hardy vegetables, many of our common vegetables and flower seeds will come on much more rapidly if not sown until the ground is thoroughly warmed, which in this vicinity is from the 20th of May to 1st of June.

We quote from W. M. Plant & Co's *Descriptive Catalogue* the following remarks on manures:

"There are many kinds of manures, and different modes of applying them. The manure from cows, and all animals that chew the cud, is considered cold, and suited to a light soil; that of horses, hogs and poultry is hot, and best suited to a cold, heavy soil. All new and fresh manure engenders heat during fermentation, and has a tendency to lighten the soil; while old, rotten manure is thought to render it more compact and firm. A thick coat of hog-pen or barn-yard dung, spread on a garden and turned in every spring, will enrich, warm and lighten the ground more and better than any application of any other manure.

"Salt, at the rate of six bushels to the acre, sowed on in the spring, away from the salt water spray, near the sea-shore, not only promotes fertility, but is very useful in destroying worms and slugs.

"Wood ashes, leached or unleached, may be used as a top dressing with decided benefit to most growing vegetables, especially onions and turnips.

"Plaster of Paris, sown upon the growing crop, is good for turnips, beans, cucumbers, and all broad-leaved plants.

"Lime facilitates the decay of vegetable substances, and is best suited to a sour, heavy soil. It ought never to be mixed with animal manure, as the one will destroy the efficacy of the other.

"Guano is too powerful to be used alone with safety, and must not be allowed to come directly in contact with seeds or plants. It may be mixed with ten parts loam, or coal dust, and scattered very thinly around growing vegetables, and dug in just before a rain; or it may be steeped in the proportion of one pound to ten gallons of water, and the liquid applied once a week; but it should be remembered that it is almost sure destruction to anything newly transplanted. Its effects are most favorable in *moist* seasons.

"Poudrette is a very active manure to start early crops, but is not lasting. It is necessary to apply it the second time, and it should always be placed under the surface.

"Liquid manure from the yard, or the drainage of the dung-hill, should be diluted with water before it is applied to growing plants, otherwise it will be apt to burn them.

"Compost is a mixture of earths and animal manures, ashes, soot, charcoal dust, lime, salt, plaster, urine, straw, weeds, and various other fertilizing substances in different combinations, thrown into a heap to remain till decomposed. It forms a very excellent manure for many kinds of garden vegetables. Compost heaps and all other manures ought to be kept under cover."

RAVAGES OF THE BARK LOUSE.

Mr. Editor:—Being to some extent interested in the nursery business, I have looked with anxiety for some comments on that pest to our apple trees, the bark louse. Its depredations are not confined to the apple tree alone, for pear and ornamental trees, and also currant bushes are affected. All efforts to destroy them (and I believe that nearly every remedy suggested by writers on this subject has been tried) have failed. Three years ago I planted two trees that were affected by themselves, for the purpose of experimenting upon them, but to no effect. Last year a few trees were killed by them, and this year I think many more will be also. I have a fine young orchard of 250 apple trees, most of them in bearing, which I fully expect no human aid will be able to keep alive, if the bark louse continues to increase as fast as they have done for five years past. P. S.

Half Day, Lake Co., Ill.

[P. S. need not fear the publication of the above, for it is very important to know of some means of dislodging such a formidable foe from our orchards. In a recent number we have given the remedy by Prof. Harris, our highest authority at present, viz: solution of whale oil soap.—Ed.]

THE MYSORE HEXACENTRE.

(HEXACENTRIS MYSORENSIS.)

This charming stone climber from India, is well worthy the attention of amateur or professional growers of new and rare plants. It was shown first in England, in May, 1852, before the London Horticultural Society, and was pronounced the most attractive among all the new and fine plants exhibited. This is saying a great deal. We copy the following cut and description from *Paxton's Flower Garden:*

THE MYSORE HEXACENTRE.

"Among all the fine plants exhibited in the garden of the Horticultural Society last May, none excited such universal interest as that now represented. It formed a small umbrella-like creeper trained over trellis in the manner represented in the annexed vignette, the whole circumference of which was loaded with pendulous racemes of most beautiful large yellow and crimson flowers. The plant was sent to Messrs. Veitch, of Exeter, from the Mysore country, which it inhabits, as its name indicates. No doubt it is the best hot-house climber that has been introduced for many years.

"We understand that the plant was sent home by Francis Maltby, Esq., of the H. E. I. C. Civil Service. Our drawing, having been taken from an inferior specimen, by no means represents all the character and beauty of the species. One drawing, received from Mr. Maltby since this figure was made, represents the bunches of flowers and buds from fifteen to eighteen inches long, and another with the upper or first flowers dropped, and a large cluster suspended at the end of a flower-stalk of about the same length. It is added that, before the plant is out of bloom the pendulous flower-stalks are from two to two and a half feet long.

"Whatever may be thought of the so-called species, which Professor Nees von Esenbeck has separated from the original *Hexacentris coccinea*, Dr. Wallich's *Thunbergia coccinea*, nobody will question the entire novelty of the plant before us, whose small not leafy bracts, large corollas and shaggy not smooth anthers, indicate a very different organization."

STRAWBERRY CULTURE.

THE Strawberry is, and deserves to be, the most extensively cultivated of all our small fruits. Productive, easily cultivated, and equal to any fruit in flavor and general usefulness, it would be strange were it not familiar to every garden. Neither has it lacked notice in horticultural literature. Much valuable information has of late years been disseminated relative to its history and management; and although there are various opinions held, with reference to its botanical distinctions, its treatment as a fruit-bearing plant is reduced to a matter of certainty. On the former question it is not my present purpose to enter, but beg to offer a few remarks in regard to its general treatment and culture.

When we consider the habit of growth, season of ripening, and permanency of the strawberry plant, we are led to the conclusion that the soil intended for its growth should receive the most thorough preparation. Its dwarf, spreading growth is not favorable for after improvement of the soil, farther than what can be derived from applications on the surface. Ripening at a period which, in nine seasons out of ten, is characterised by deficient moisture in the soil, and extreme atmospheric aridity, suggests the idea of allowing the roots a deep and rich medium where they can luxuriate uninfluenced by surface temperature. And when we farther consider that a strawberry plantation should produce at least three crops before removal, we may safely aver that the preparation of the soil in the first instance is of the utmost importance.

This leads us again to the foundation of all permanent improvement, *subsoil culture*. Trench the soil at least 18 inches in depth, incorporating a heavy dressing of well-decomposed manure, and if the soil is clayey, or adhesive in its nature, an application of charcoal dust will be highly beneficial. As a corrective for clayey soils, charcoal cannot be too highly recommended. In a physical view, it renders the soil porous and permeable to gases, and chemically, its absorbing and disinfecting properties are equally valuable, the amount of ammonia and other gases which it is capable of absorbing, giving it value as a fertilizer. On a soil thus treated, there will be no danger of a defective, half-ripened crop, or the plants burning out, as frequently happens on poor shallow soil, for although the strawberry is a plant of small structure, I have traced the roots, in favorable soils, a distance of three feet from the surface.

There are various methods of arranging the plants. They may be placed in rows thirty inches apart, the plants standing one foot from each other in the row, or, planted in beds six feet wide, thus admitting of four rows, the plants fifteen inches apart. Some strong growing varieties require more space than the above to attain their greatest perfection, and such as Boston Pine, Goliah, &c., do best in hills thirty inches or three feet apart. The best method for garden culture is the first-mentioned, keeping between the rows clear of weeds and runners, unless the latter are required for a new plantation, which, on the principle of rotative cropping, should be done every third or fourth year, as the plants seem to retain their vigor and fruitfulness.

Young plantations may be set out at various seasons; either at midsummer, fall, or early spring. As early as young plants can be obtained, say about the last of July or beginning of August, is the time for midsummer planting. Choosing a cloudy day for the operation, the plants immediately on removal should have their roots preserved by dipping them in a puddle. This system of encasing roots with a coat of mud, is very useful and efficient, and may be practised in the transplanting of all young plants in dry weather, as it obviates, in a great degree, subsequent attention in watering. A thin covering of short grass, or litter of any description, should now be laid about the young plants. Planted thus early, a good growth will follow, the plants mature buds before winter, and produce an average crop the following season.

Fall planting is frequently practiced, and if the plants are set out early, not later than the middle of September, they will root and get somewhat established before winter; but the alternate freezing and thawing of the soil during winter, throws them out of the ground, unless the soil is of a sandy nature and protected with a covering of litter. Instead of planting them out permanently in the fall, it is more advisable to place them a few inches apart in a sheltered spot, where they can be preserved by a covering of leaves all winter, and planted out early in spring. This practice not only affords time for a suitable and thorough preparation of the ground, but the plants being carefully lifted with small balls of earth to their roots, will produce a more uniform and vigorous plantation, than those permanently planted out in the fall.

Mulching is a very material consideration in strawberry culture, more particularly in spring and fall. Covering the ground between the plants with hay, leaves, &c., in spring, preserves the fruit while ripening, and retards the escape of moisture from the soil. In the fall a covering of short manure will serve the double purpose of enriching the soil and sheltering the plants during winter. Tan bark has been much recommended for this purpose, and has been pronounced a special manure for the strawberry. I have used it largely for many years, but have not discovered its utility as a manure; its protecting qualities cannot be questioned, and may be usefully employed as a substitute—but not equal to a mixture of partly decomposed leaves and stable-yard manure—for winter covering.

The long list of named varieties, and the constant additions to the list, renders it difficult to make a choice selection; some catalogues enumerate over 100 named sorts. Having tested at least half that number, I prefer and would recommend the three following as combining all that has been attained in this fruit:

1. For flavor alone, Burr's Pine. 2. For size and flavor, Hovey's Seedling, and for size, M'Avoy's Superior. These, with a few plants of the Cushing, or Buist's Prize, as fertilizers, will leave little to be desired in the excellence of this valuable fruit.—*William Saunders, in Germantown Telegraph.*

PUNCTUALITY begets confidence, and is the sure path to honor and respect.

Ladies' Department.

CONDUCTED BY MRS. C. P. T., RICE LAKE, C. W

CULTIVATION OF PLANTS AND FLOWERS.

On the laying out of a garden, the soil and situation must be considered as much as the nature of the ground will admit. Many soils which are harsh or arid, are susceptible of improvement by a little pains. Thus, a stiff clay, by digging well and leaving it to become pulverized by the action of the frost, and then mixing plenty of ashes with it, becomes a fine mold, which I have ever found most excellent for all flowers of the hardier kind. The black soil is the richest in itself, and requires no assistance beyond changing it about a foot in depth every three years, as a flower garden requires renewing, if a lady expects a succession of handsome flowers. The ground should be well dug the latter end of September or October, or even in November, and if the soil is not sufficiently fine, let it be dug over a second or third time, and neatly raked with a very fine-toothed rake.

Stony ground requires riddling well, and great care must be taken to keep it neat by picking up the little stones which constantly force themselves to the surface after rains. Nothing is so unbecoming as weeds and stones in parterres, where the eye seeks flowers and neatness. Almost every plant loves sand; and if that can be procured, it enriches and nourishes the soil, especially for bulbs, pinks, carnations, auriculas hyacinths, &c. Let it be mixed in the proportion of a third part to the whole.

If the dead leaves are swept into a mound every autumn, and the soap-suds, brine, &c., of the house be thrown upon it, the mass will quickly decompose, and become available the following year. It makes an admirable compost for auriculas, &c., mixed with garden or other mold.

If the ground be a gravelly soil, the flower-garden should not slope, for stony ground requires all the moisture you can give it, while the sloping situation would increase the heat and dryness. A moist earth, on the contrary, would be improved by being sloped towards the east or west.

The south is not so proper for flowers, as a glaring sun withers the tender flowers; but the north must be carefully avoided, and shut out by a laurel hedge, a wall, or any rural fence garnished with hardy creepers, or monthly roses, which make a gay and agreeable defence. Monthly roses are invaluable as auxiliaries of all kinds. They will grow in any soil, and bloom through the winter months, always giving a delicate fragrance, and smiling even in the snow. Monthly roses will ever be the florist's delight: they are the hardiest, most delicate-looking, and greenest-leaved of garden productions; they give no trouble, and speedily form a beautiful screen against any offensive object. No flower garden should exist without abundance of monthly roses.

It has often been a disputed point whether flower gardens should be intersected with gravel walks or with grass plots. This must be left entirely to the taste and means of the party forming a garden. Lawn is as wet and melancholy in the winter, as it is beautiful and desirable in the summer; and it requires great care and attention in mowing and rolling, and trimming round the border. Gravel walks have this advantage: the first trouble is the last.

Many females are unequal to the fatigue of bending down to flowers, and particularly object to the stooping posture. In this case, ingenuity alone is required to raise the flowers to a convenient height; and by so doing, to increase the beauty and picturesque appearance of the garden. Old barrels cut in half, tubs, pails, &c., neatly painted outside, or adorned with rural ornaments, and raised upon feet neatly carved, or mounds of earth, stand in lieu of richer materials, such as vases, parapet walls, and other expensive devices, which ornament the gardens of the wealthy. I have seen these humble materials shaped into forms as pleasing to the eye, and even more consonant to our damp climate, than marble vases. They never look green from time, and are renewed at a very trifling expense. A few pounds of nails, and the unbarked trimmings from fir plantations, are the sole requisites towards forming any device which a tasteful fancy can dictate; and a little green paint adds beauty and durability when the bark falls from the wood it protects. I have seen fir balls nailed on to these forms in tasteful patterns; and creepers being allowed to fall gracefully over the brims, give a remarkably pleasing and varied appearance to the parterre.

Every lady should be furnished with a gardening apron, composed of stout Holland, with ample pockets to contain her pruning knife, a small, stout hammer, a ball of string, and a few nails and snippings of cloth. Have nothing to do with scissors; they are excellent in the work room, but dangerous in a flower garden, as they wrench and wound the stems of flowers. The knife cuts slanting, which is the proper way of taking off slips; and the knife is sufficient for all the purposes of a flower garden, even for cutting string.

There are many modes of adorning a small piece of ground, so as to contain gay flowers and plants, and appear double its real size. By covering every wall or palisade with monthly roses and creepers of every kind, no space is lost, and unsightly objects even contribute to the general effect of a "plaisaunce." The larger flowers, such as hollyhocks, sunflowers, &c., look to the best advantage as a back ground, either planted in clumps, or arranged singly. Scarlet lychnis, campanula, or any second-sized flowers, may range themselves below, and so in graduated order, till the eye reposes upon a foreground of pansies, auriculas, polyanthuses, and innumerable humbler beauties. Thus all are seen in their order, and present a mass of superb coloring to the observer, none interfering with the other. The hollyhock does not shroud the lowly pansy from displaying its bright tints of yellow and purple; neither can the sturdy and gaudy sunflower hide the modest double violet or smartly clad anemone from observation. Each flower is by this mode of planting distinctly seen, and each contriputes its beauty and its scent, by receiving the beams of the sun in equal proportions.

If the trunk of a tree stands tolerably free from deep, overshadowing branches, twine the creeping rose, the late honeysuckle, or the everlasting pea

round its stem, that every inch of ground may become available. The tall, naked stem of the young ash looks well festooned with roses and honeysuckles. Wherever creeping flowering plants can live, let them adorn every nook and corner, stem, wall and post; they are elegant in appearance, and many of them, particularly clematis, are delicious in fragrant scent.

If flowers are planted in round or square plots, the same rule applies in arranging them. The tallest must be placed in the center, but I reccommend a lady to banish sunflowers and hollyhocks from her plots, and consign them to broad borders against a wall, or in clumps of three and three, as a screen against any unsightly object. Their large roots draw so much nourishment from the ground, that the lesser plants suffer, and the soil becomes quickly exhausted. Like gluttons, they should feed alone, or their companions will languish in starvation, and become impoverished. The wren cannot feed with the vulture.

Flowers are divided into three classes:—annuals, biennials, and perennials.

Annuals are those flowers which are raised from seed alone, in the spring, and which die in the autumn. They are again divided into three classes:—the tender and more curious kinds, the less tender or hardier kinds, and the hardiest and common kinds.

Biennials are those flowers which are produced by seed, bloom the second year, and remain two years in perfection, after which they gradually dwindle and die away.

Some sorts, however, of the biennials, afford a continuation of plants by offsets, slips and cuttings of the tops, and by layers and pipings, so that, though the parent flower dies, the species are perpetuated, particularly to continue curious double-flowered kinds, as for instance, double rockets, by root offsetts, and cuttings of the young flower-stalks; double wallflowers by slips of the small top shoots; double sweet-williams by layers and pipings, and carnations by layers.

Perennials are those flowers which continue many years and are propagated by root offsets, suckers, parting roots, &c., as will be more fully particularized under the head of perennials.

It has been a debated point among florists whether plots or baskets should be devoted each to a particular variety of flower, or receive flowers of different kinds, flowering at separate seasons. Thus, many ladies set apart one plot of ground for anemones only—another plot receives only pansies, and so on. There is much to be said on both sides of the question.

Every flower may be supplied with its favorite soil with a little patience and observation. A light soil suits all descriptions very well; and I never yet found disappointment in any description of earth which was thoroughly well dug, and dressed yearly from the mound of accumulated leaves and soap-suds, before alluded to. I particularly recommend a portion of sand mixed with the heap. All bulbs, carnations, pinks, auriculas, ranunculuses, &c., love a mixture of sand. I know no flowers of the hardy class which reject it. Mix sand well into your borders and plots, and you will not fail to have handsome flowers.

Ants are very great enemies to flowers; but I know no method of attacking them except in their own strongholds, which I have always done with cruel intrepidity and success. My only plan was to lay open the little ant-hill, and pour boiling water upon the busy insects, which destroyed at once the commonwealth, and the eggs deposited within the mound. In some places ants are extremely large and abundant, and they quickly destroy the beauty of a flower by attacking its root and heart.

The term *deciduous*, applied to shrubs, signifies that they shed their leaves every winter.

Herbaceous plants, signify those plants whose roots are not woody, such as stocks, wallflowers, &c., &c.

Fibrous-rooted plants, are those whose roots shoot out small fibres, such as polyanthuses, violets, &c.

Tuberous-rooted plants, signify those roots which form and grow into little tubes, such as anemones, ranunculuses, &c.

Perennials are flowers of many years' duration; and they multiply themselves most abundantly by suckers, offsets, parting the roots, &c. They require little trouble beyond taking care to renew the soil every year or two by a somewhat plentiful supply from the compost heap; and by separating the offsets and parting the roots in autumn, to strengthen the mother plant. When the flowers are past and the stems have decayed, then the operation may take place. Choose a showery day for transplanting the roots, or give them a moderate watering to fix them in their fresh places. When you transplant a flower root, dig a hole with your trowel sufficiently large to give the fibers room to lie freely and evenly in the ground.

I have laid great stress upon possessing a heap of compost, ready to apply to roots and shrubs every spring and autumn. Wherever the soil is good, the flowers will bloom handsomely; and no lady will be disappointed of that pleasure, if a compost heap forms one essential, in a hidden corner of the flower garden. If you raise your perennials from seed, sow it when the ground has become thoroughly warmed, in a bed of light earth, in the open ground. Let the bed be in a genial, warm situation, and divide it into small compartments; a compartment for each sort of seed.

Sow the seed thin, and rake or break the earth over them finely. Let the larger seed be sown half an inch deep, and the smaller seed a quarter of an inch. Water the beds in dry weather often, with a watering-pot, not a jug. The rose of the watering-pot distributes the water equally among the seedlings; whereas, water dashed upon them from a jug falls in masses, and forms holes in the light earth, besides prostrating the delicate seedling.

About the end of May, the seedlings will be fit to remove into another nursery bed, to gain strength till October; or be planted at once where they are to remain. Put the plants six inches apart, and water them moderately, to settle the earth about their roots.

But it is rarely required to sow seed for perennial plants; they multiply so vigorously and quickly of themselves, by offsets; and cuttings may be made of the flower stalks in May and June in profusion.

The double scarlet lychnis, and those plants which rise with firm flower stems, make excellent cuttings,

and grow freely when planted in moist weather. Double rockets, lychnidea, and many others, succeed well.

Carnation and pink seedlings must be taken great care of. They will be ready to plant out about the middle of June, and as innumerable varieties spring from sowing seed, they should be planted carefully in a bed by themselves six inches asunder, and they will flower the following year, when you can choose the colors you most approve. Carnations properly rank under the head of biennials; but pinks are strictly perennial plants, and much has been written upon this hardy and beautiful flower. It comes originally from a temperate climate, therefore the pink loves shade: the fervid sunbeams cause its flowers to languish and droop. You may give them an eastern aspect.

Be careful to watch pinks when they are budding, and do not allow two buds to grow side by side. Pinch off the smaller bud, which would only weaken its companion. Keep the plants free from decayed leaves, and gently stir the earth round them occasionally with your small trowel. This operation refreshes them. Stake them neatly, that they may not fall prostrate after rain.

If you wish to preserve any particular pink, let it grow in a pot, or upon a raised platform, that it may be placed beyond the reach of hares, rabbits, or poultry, and be more easily sheltered from long and severe frost or rains in winter, and from the dry heats in summer, either of which destroys the beauty of the flower. The pots can be sunk in the ground in fine weather. Do not hide your pinks among larger flowers; let them be distinctly seen. If you water pinks too much, their roots become rotten; and if you suffer them to be too dry, they become diseased. Beware of extremes. The best rule is to keep them just moist. A fine pink should not have sharp-pointed flower-leaves; they should be round and even at their edges, and the colors should be well-defined, not running one into the other. The flower should be large; it should possess a great many leaves, and form a sort of dome. Piping and slipping is the most expeditious mode of propagating plants from any selected pink.

Pansies, violets, &c., are very easily propagated by parting the roots when the flowers are past. Pansies are very beautiful flowers; and cuttings of their young shoots will grow very freely if kept moist and shaded for some little time. By refreshing the soil every year, you insure large flowers. Pansies and violets bloom early in the spring.

Hepaticas must be parted like violets. They appear so very early in the year that no garden should exist without these gay and modest flowers. The leaves appear after the flower has passed away.

The polyanthus blooms among the early tribe. In planting this flower, be careful to insert the roots deep in the soil, so that the leaves may rest upon it, for the roots are produced high upon the stem, and those roots must be enabled to shoot into the soil. The polyanthus, like almost every other flower, loves a good soil, with a mixture of sand.

In dividing these fibrous-rooted perennial plants, take only the strong offsets, with plenty of fibers attached to them.

Polyanthuses, auriculas, double daisies, double camomile, London pride, violets, hepaticas, thrift, primroses, gentianella, &c., succeed well, taken up and divided in September, for they will all have done flowering by that time. Indeed, all perennial fibrous-rooted plants may be taken up in October to have their roots parted, and the soil refreshed round them.

Peonies, and all knob-rooted plants, should be taken up in October, to part their roots and transplant them to their intended positions.

The saxifrage has very small roots, which are apt to be lost in borders if not carefully looked after. Like the anemone, &c., sift the earth well for them.

Dahlias require a word or two upon their culture. They love sand, therefore allow them plenty of it, but do not put manure to their roots, which throws them into luxuriant leaf and stem, to the deterioration of the flower. Peat mold is good, if you can obtain it, to mix with the sand, as it assists the flower in developing stripes and spots. Train each plant upright, upon one stem only, and give it a strong stake to support its weight, which soon succumbs under gusts of wind. Plant them in open and airy places. When the stems become black, take them up, separate the roots, and plunge them into a box of ashes, barley chaff, or sand, to protect them through the winter. Plant them out in May.—*Ladies' Flower Gardener.*

VEGETABLES AND THEIR COOKERY.

The following remarks upon vegetables and their cookery, in the *Soil of the South*, are worthy an attentive perusal:

The peculiar flavor of asparagus, green peas, green corn, tomatoes, squash, egg plant, and salsify, cannot be imitated by art, but is very easily spoiled by the cook.

There are many vegetables that should be cooked so as to preserve the green color. Such as asparagus, spinach, green peas, snap beans, okra, etc., this cannot be done if cooked in iron. Brass, or vessels lined with porcelain, will preserve the green of nature. How often do we see okra as black as ink from being cooked in iron vessels, and green peas that are *black* peas. It is not the looks alone, but the flavor is not as good as when the green is preserved.

Asparagus.—This delicious vegetable is not yet appreciated in the up-country of the South. Tie the stalks in small bundles, and drop them into boiling water, with a good portion of salt; ten or fifteen minutes' boiling is enough. Place some slices of soft toast in a deep dish, and take the asparagus up on the toast; saturate the whole with sweet butter, and pepper to taste.

Snap Beans.—Having taken off the strings, *snap them*, and drop into boiling water, with the addition of salt. Try with a fork, and when tender, take up, and serve with melted butter or good sweet cream. Many cooks snap with meat—but they are only *greens* cooked with meat.

Butter Beans.—Having shelled them, drop them into cold water; as the water boils, add salt. Try with a spoon, and when done, serve up with melted butter.

Beets.—No knife should ever touch a beet previous to boiling; rub the leaves off by hand, for if there is

a wound made in the beet, the best of its juices will be lost in boiling. Drop the beets into boiling water, with a handful of salt. Most cooks take beets from the boiling kettle and place them in cold water, for the ease with which the skin peels off. This should never be done, as they part with one-half their flavor. When taken from the pot, let them drain, then peel and slice them, butter, pepper and salt them, or pour good vinegar over them, which many prefer.

Cucumbers.—Who ever heard of cooking a cucumber? we hear our readers exclaim! Try it; and then tell your neighbors how well a poor man may live in this country. Take the cucumber just as it begins to turn yellow, peel and slice it into salt and water; drop it into cold water, and boil until tender. Season with salt and pepper—mix with batter and fry. Few can tell it from egg plant.

English Peas.—Green peas to be good must be young, and of quick growth; after shelling, drop them into boiling water, with a little salt; there should be but just enough water to cover the peas; twenty minutes boiling will cook them. Just before taking up, add a lump of sweet butter, with pepper and salt to taste; cook them in brass or porcelain.

Squash.—The early bush and crookneck, are only fit to cook when very young. Cut the stem and flower ends off, and drop into boiling water; when done, take up and drain through a colander, then with a wooden spatula mash until the mass is perfect jelly. Now add sweet butter, salt, and pepper, and serve up for the table. Marrow squashes should be split open, the seeds taken out, the skin taken off, and dropped into boiling water. When done, take up and mash; add sweet butter, salt and pepper; break three or four eggs into the mass, stir it well; place it in a shallow dish and bake it. Should the squash prove dry, a little sweet milk may be used to moisten it. Cooked in this way, it will prove what its name imports—*marrow*, indeed.

Spinage.—This is one of the most delicious of the whole tribe of the *greens* family. Wash the leaves carefully, and drop them into boiling water, in which there has been a little salt put; ten or fifteen minutes will be enough to cook them. When done, take up and drain through a colander. Now season with butter, pepper and salt, and lay over some slices of toasted bread, and serve up for the table.

Salsify or Vegetable Oyster.—Wash the roots perfectly clean, and drop them into boiling water; when done, take up and mash; add sweet milk and flour sufficient to make a batter. Season with salt and pepper, and such other condiments as the oyster requires, and fry in butter. Another way in which they are very delicious is, to grate the root on as fine a grater as it will pass through; add sweet milk just enough to cover it, and boil; when done, add flour enough to make a batter; season with salt and pepper; break two or three eggs in, and stir the whole together; fry in butter or very sweet lard, and the resemblance to oysters is complete.

Irish Potatoes—There are many ways to cook this vegetable to make it delicious, and yet our hotels seldom have them fit to eat upon their tables. An Irish potatoe, to be good, must be mealy when boiled. To secure this, select good potatoes, wash them clean, cut the skin from both ends, drop them into boiling water, with a handful of salt; the moment a fork will penetrate them freely, turn the water all off, and let them steam until dry. Take up hot and send to the table. Those left over dinner, may be sliced and fried. Salt them well and fry brown. Another method of cooking the potato is, to peel and slice them raw; let them soak in cold water two hours before cooking, to extract the bitterness. Now boil in salt and water; when nearly done, turn off the water, substitute sweet milk, add a lump of butter, with black pepper, and serve up for the table. Another way of cooking the potato, is to make it into bread. Boil the potatoes, skin and mash them by hand; add sweet milk, and one-half flour, stir it well; season with salt and butter, turn into deep dishes and bake.

Vegetable Seasoners.—Parsley, celery, thyme, sage, onions, garlic and other seasoners, should not be put into soups or stews until the soup is nearly done; chop fine, and put in five minutes before the soup is taken from the fire.

HINTS FOR HOUSEWIVES.

Furniture Polish.—An equal mixture of sweet oil and vinegar. This must be used constantly, and the furniture afterwards well rubbed with a chamois leather. This is an excellent polish for mahogany. Furniture cream for polishing wood, is made with two ounces of pearl-ash, one gallon of soft water, one pound of bees-wax, a quarter of a pound of soap, boil until dissolved, spread it with a painter's brush, and polish off with a leather.

To Iron Velvet.—Having ripped the velvet apart, damp each piece separately, and holding it tightly in both hands, stretch it before the fire, the wrong side of the velvet being towards the fire. This will remove the creases, and give the surface of the material a fresh and new appearance. Velvet cannot be ironed on a table, for, when spread out on a hard substance, the iron will not go smoothly over the pile.

Apple Jam.—Pare and core the best eating apples as for jelly. Put them in a pan with water enough to cover them, and boil over a clear and brisk fire till they can be reduced to a mush. To every pound of pared apple, weighed before boiling, add, *after* boiling, one pound fine, sifted sugar. Agitate well while hot, and after adding the sugar, and when reduced to a jam, place it in pots, and set away for use. The better the apples are, the better will be the jam.

Bologna Sausages.—The following is a Montgomery County Housekeeper's Recipe for making Bologna Sausages. There is one satisfaction in using your own manufacture of this article—you know what kind of *meat* they are composed of.

Chop ten pounds of the round of beef very fine; cut two pounds of the fat of fresh pork in the same manner; add quarter ounce of cloves, quarter ounce of mace, pounded very fine, two and a half ounces black pepper. Mix all well together and let it lay over night; then stuff it tight in heavy muslin bags, and lay them four or five days in pickle; after which drain them, smoke them a week, and hang them up where they will dry.—*T., in the Germantown Tel.*

Editor's Table.

PROSPECTS FOR THE SEASON.—That good prices will be obtained for agricultural products of every description, is now apparent to all; and were it not that we are the most extravagant people on earth, there would be nothing to prevent our becoming wealthy and independent. We are rich in the elements of wealth, but wealth and the means of wealth, however abundantly possessed by individuals or nations, will be of little avail to spendthrifts, as is evidenced by the records of the custom house, in the extravagance of foreign silk and gewgaws. We must be content, having earned our money, not to spend it for articles of luxury, or for those things which can equally as well be made at home as abroad.

But it seems in vain to show the right while fashion says the standard shall be, not one's own comfort, but the appearance one can make in other people's eyes; and in our own city, even, while money the past winter and spring has been worth from two and a half to three per cent. a month, the butterflies of fashion have ornamented themselves as gaudily and in as costly a manner as though gold could be had for the asking, and a thousand dollar bridal paraphernalia is not too extravagant, so that all rivals may be eclipsed.

We do not anticipate that the quantity of wheat in the States proper can be materially increased, except by means of better and more careful cultivation. The skinning process has been so long practiced, that years will be required to restore many of our farms to their former fertility. The lands on which wheat can be grown with a certain prospect of an average crop, (the Canadas excepted,) have nearly all been put under cultivation. The war on the European continent, while it withdraws millions of able-bodied men from the cultivation of the soil, thus turning producers into consumers, enhances the price of grains, because the fruits of war are waste in every form and in every thing, and more particularly waste of labor, money, and life, the three essential elements of national wealth. An able writer in the *London Farmers' Magazine*, says: "It is now evident that throughout Western Europe, at least, consumption has overtaken production. The two causes which have operated in England to increase the consumption of food and to decrease its production are, first, increase of population, which, as there is only a given quantity of tillable land, causes the disproportion to be larger every year; second, with increase of population there has been a corresponding increase in the consump- of animal food, as well as vegetable, requiring a larger supply of cattle, both for the butcher and the dairy, and consequently a larger breadth of grazing and arable land for the production of green crops to rear and feed them.

"The same considerations," he further states, "apply to France, with this addition: the large absorption of land in the cultivation of the Silesian beet root, to supply the manufacturers of sugar.

"The same causes are operating in Prussia, Austria, Belgium, Holland, Bavaria, and most of the minor German States. In only Holland and Belgium is agriculture flourishing, and even they are grazing more than agricultural countries, and are themselves large purchasers of grain from the Baltic ports."

Such being the facts, there is every inducement then held out to American farmers to devote every available field to the growth of some crop that will feed both man and beast; but while doing that, remember the land must be fed, if it is to feed you, a proper rotation of crops must be practiced, and, above all, a rigid economy in the saving and application of manures.

In many sections where winter wheat cannot be successully grown, we are confident that spring wheat will be found a very profitable crop; and according to some analyses that we have seen, it is represented as being richer in the elements of nutrition than winter wheat, though much depends, we should think, upon the soil and the variety grown, and also the variety with which it is compared. Fair crops of spring wheat of the Scotch or Fife variety have been obtained in this vicinity, when sown as late as the 15th of May; and a Canadian correspondent of the *Country Gentleman* (a periodical, by the way, true to its name, and worthy a place by every fireside) states that good crops have been grown when sown as late as the 25th of May, and that a better yield was obtained when sowing was delayed until the ground had become warmed by the sun and air, than when sown as early as is customary.

In former numbers we have shown the value of root crops as a substitute for hay and grains in stock feeding, and we trust that no one of our readers will neglect their growth and cultivation.

Of Indian corn, our truly *native* grain, we will say but little, only to urge its extensive cultivation; and especially do we recommend the devoting of a portion of your tillable land to its cultivation as a forage crop. Sown in drills nine inches apart, and cut when just about to ear, several tons of the very best of forage for stock, and especially for milch cows, may be had per acre at but comparatively small expense. Try it and see if it is not so.

For some years past, though the rot seems to be passing away, the yield of potatoes per acre has been gradually diminishing. Theory shows that it requires a soil rich in alkalies and phosphates, and practice tells us that on freshly tilled virgin soils, one rarely fails of having good, sound tubers, and a good yield. Guano has been found an excellent manure for them, increasing the yield per acre to a degree generally much exceeding its cost. A friend, who was induced to make the experiment of mixing lime, ashes and plaster, for the purpose, to use his own words, "of seeing if the papers did tell the truth or not," informs us, that whether it was owing to the use of such a compound or not, (about a small handful being applied to it in each hill at the time of planting,) his crop of potatoes last fall was better than he had had for many years previous.

Some four years since, having occasion to grade a lot, the soil was removed to the depth of about two and a half feet, and 100 bushels of ashes (being at the rate of 500 bushels to the acre) were then spread evenly over the surface, and plowed in as deeply as could be done with a stout

two-horse team. The lot was then planted with corn. The stalks were of but medium length, but the ears were uncommouly large and well filled. The next two seasons their owner planted it with potatoes, and at a time when every other potato patch in its vicinity showed unmistakable symptons of the rot, in decayed and decaying tops, the vines in the ashed lot were of a deep green, and grew with great rapidity in size and length. All may not derive benefit from such a practice, but in our own case and experience, we have found the application before spoken of an excellent one for potatoes in the hill, and also when applied at the time of the first and second hoeings.

C. M. SAXTON & Co., 152 Fulton street, New York, propose to reprint from the English edition, *Davies' Devon Herd Book*. It contains the pedigrees of some thousands of Devon cattle, both of England and America. The pedigrees of American herds contained in the English edition will be corrected and extended, where the editor has, from knowledge, the means, or where breaders and owners will furnish the means to do so. An appendix will be added, containing authentic pedigrees of American Devon cattle, not included in the English edition. To this end they request the co-operation of breeders and owners, by forwarding their pedigrees immediately, postage paid, to C. M. SAXTON & Co., New York. Those who will furnish cuts of portraits of their animals, and pay the cost of paper and printing, can have them inserted.

This work is indispensable to every breeder of Devon cattle in America, and must be possessed by them if they would understandingly pursue their business. Breeders can afford to take a large number of copies to distribute to their customers and the public, as advertisements of their herds. The American edition will be edited by the Hon. AMBROSE STEVENS, editor of "Youatt and Martin on Cattle," "Youatt and Martin on the Hog," etc., etc.

THE following are but samples of many similar letters received by us every day. We can assure our frieneds it gives us much pleasure to think our efforts are appreciated, and we shall continue to give a word in season in reference to the various operations of practical farming. Meanwhile, may we not ask *our* friends to show the FARMER to their neighbors and acquaintances, and act as agents in extending our list of subscribers?

"I have received your FARMER one year, and have sent my subscription for this year long ago. I hope you have received it, for I would not be without the GENESEE FARMER a year for five times the cost of it. I look upon it as being the best and cheapest work of the kind in the world; and intend to do my best to get my brother farmers to subscribe for it. J. B.

"SOUTH YAMHILL, Polk Co., O. T."

"Having but just begun my career as an agriculturist, I find the GENESEE FARMER an almost invaluable companion. I find in it every month something that is directly applicable to the work in hand, together with a great many good ideas in relation to the rotation of crops, &c.

"Yours, N. C. W.

"WHITESBORO', N. Y."

A NATIONAL SHEEP SHOW.—The Wool-Growers' Association of Western New York will hold a National Sheep Show, at Bath, on the 29th, 30th and 31st days of May, 1855. The payment of one dollar enables any one to become a member of the society.

Officers for this year:—*President*—WM. BAKER, Urbana; *Corresponding Secretary*—WM. B. MCKAY, Bath; *Recording Secretary*—ROBERT B. WILKES, Bath; *Treasurer*—Hon. REUBEN ROBIE, Bath. There are also thirteen Vice Presidents and several Corresponding Secretaries.

PREMIUMS ON FINE WOOL SHEEP.

FIRST CLASS.—Sweepstakes Pen, best 10 fine wool ewes, $75. Best fine wool buck, over two years old, $50; 2d do., $40; 3d do., $30; 4th do., $20; 5th do., $10.

Awarding Committee.—Wm. Wheeler, Wheeler, Steuben Co.; Hector Hitchcock, Conesus, Livingston Co.; J. L. Monier, Naples, Ontario Co.

SECOND CLASS.—Best five ewes with lambs, fine wool, $30; 2d do., $20; 3d do., $10. Best five ewes two years old, $20; 2d do., $15; 3d do., $10.

Committee.—Alex. Arnold, Avoca, Steuben Co.; Wm. D. Dickinson, Victor, Ontario Co.; —— Chilson, Pavilion, Wyoming Co.

THIRD CLASS.—Best five ewes one year old, fine wool, $20; 2d do., $15; 3d do., $10.

Committee.—Solomon Hitchcock, Conesus; Calvin Ward, Richmond, Ontario; —— Galentine, Rush, Monroe.

FOURTH CLASS.—Best buck two years old, fine wool, $30; 2d do., $20; 3d do., $10. Best buck one year old, fine wool, $20; 2d do., $15; 3d do., $10.

Committee.—Loomis Bunce, Milo, Yates; C. D. Champlin, Urbana, Steuben; Nathan Squires, Penn Yan, Yates.

No sheep will be allowed to compete for more than one premium, except in the fifth class.

FIFTH CLASS.—Best single ewe, fine wool, $10. Best 3 ewes, fine wool, $15.

Committee.—Daniel Gray, Wheeler; Wm. A. Cook, Lima, Livingston; G. H. Wheeler, Wheeler.

This class may be drawn from any of the foregoing pens.

WE would invite the attention of our readers to the advertisement of Messrs. RAPALJE & Co. They are now provided with a large and complete assortment of agricultural tools and implements, and they have paid particular attention to the selection of field and garden seeds. From their long experience in business, those wishing to purchase may rely upon getting good and perfect implements and seeds.

THE March number of the *Farmer and Mechanic*, published at Paris, Kentucky, has an article copied from the FARMER, without its proper credit. Exchanges are welcome to our original articles, provided they give the usual credit. Several others have done the same, and we think it is not doing as they would be done by.

WE have been at considerable trouble to reprint back volumes of the GENESEE FARMER, and can now supply them, bound or unbound, from 1846 to 1854, inclusive. Bound, half sheep, postage prepaid, $1.00 per volume. Bound and sent per express, 75 cents. Unbound, 50 cents per volume.

Inquiries and Answers.

MR. EDITOR:—Our prairie land, fresh broke, is sure for a fair crop of spring wheat of fair quality. After a few years' cropping it is uncertain; sometimes doing as well as fresh sod, sometimes nearly failing, but rapidly deteriorating—i. e., growing more uncertain. What element of wheat is probably first exhausted, and what would supply it as a special manure? Soil a deep, loose loam, much of it rather sandy. Is it better to plow in dry stubble than to burn it off? Suggestions on the above points would perhaps be valuble to other Iowa farmers. P.—*Iowa.*

If clover can be successfully grown on your prairie land, it has no superior as a preparative for wheat. G. O. TIFFANY, in the *Transactions of the Wisconsin State Agricultural Society* for 1852, recommends corn sown broadcast and plowed under as a substitute for clover. We do not know as the experiment has been tried. Lime is an indispensable element in a wheat soil. Suppose you apply a few bushels to an equal number of perches of land, and note the result, as compared with an equal quantity of seed sown on unlimed land. On sandy soils in some of our Eastern States, farmers are in the habit of applying leached ashes; but in your locality they would, perhaps, be too expensive. We believe the tendency of cereal crops on the prairie lands is to straw rather than to seed. The straw of wheat contains a large portion of silica—the seed but a very little. The straw has but little phosphoric acid in its texture, while it is an important portion of the seed. On theoretical grounds, we would suggest that you make a trial of bone-dust, at the rate of ten bushels to the acre, or superphosphate of lime at the rate of 300 lbs. to the acre, and compare results as directed before. Light, sandy land requires a free use of the roller to consolidate the soil. From what we can learn of prairie land and soil, stock-husbandry promises a much surer return than raising cereal or grain crops.

I WISH to make an inquiry through your valuable paper, how clover seed is best gathered and cleaned. What is the best machine for such uses? and which is the best for seed, the first or second crop?

In Western New York, the second growth of clover is universally allowed to go to seed, and is gathered by machines constructed for that purpose, when the dew is off. We have recently examined a model of a machine for heading and gathering clover, timothy, and other grass or grain seeds, invented by T. S. STEADMAN, of Holley, N. Y. It is very simple in construction, easy to operate, and from the peculiar action of the cutting knives, will not become clogged under any ordinary circumstances. It is drawn by one horse, and with it a man can gather the seed of from eight to twelve acres per day. By removing a small gearing wheel, it becomes a three-wheeled wagon box, and can then be driven to the barn or wherever wished. It is also a self-raker, and with ordinary care we do not see how an ounce of seed need be lost. More information may be obtained by addressing the patentee, T. S. STEADMAN, of Holley, N. Y. We can not speak from experience as to the merits of clover hullers, and should be glad to hear from our correspondents as to the merits and demerits of the various machines now in use for that purpose.

HAVING been a subscriber for the GENESEE FARMER for the past seven years, I do not recollect of seeing any remedy for the blindness of sheep, or the cause of their becoming blind. My neighbor has a fine flock of sheep, and some of them have become perfectly blind, that are young and healty to all appearance. If you, or some of your correspondents will give some information and a remedy, you will oblige a subscriber. JAS. NORTHRUP—*Cameron.*

There are so many causes which may produce blindness, that the above question is somewhat difficult to answer. For instance, blindness may be caused by hard driving, being chased by dogs, the intense glare of sunlight on fields of snow, and some have thought the pollen of flowers will occasionally produce it—and sometimes it may be caused by infection or some epidemic influence. Blindness shows itself in different ways: in some the whole surface of the eye-ball has a light-blue color, while more commonly a white film gradually spreads over it till it has assumed a pearly whiteness. A writer on the subject states "that all kinds appear to be preceded or accompanied by inflammation, and the principal remedy in all bad cases is bleeding from the vein under the inner angle of the eye on the side of the nose. After properly securing the animal, place the left hand on the vein, about two inches from the angle of the jaw and opposite the third grinder, and immediately upon the vein becoming full, puncture it in a spot about an inch from the eye." Respecting washes, he says almost the only wash which can be of service is either a drop or two of *vinous tincture of opium introduced into the eye.* Blindness is frequently hereditary; and it would be advisable to ascertain the condition and soundness of the parent stock.

WHAT is the reason the southern part of Western New York is not well adapted for raising wheat? Are there any well authenticated experiments with lime or plaster, or any other mineral which produced beneficial effects? If there are, I should like to know the particulars. I should be pleased to know the best plan for making charcoal. I should also like to know the best way of using muck for manure. Would it not be a good plan to haul it out, say in August, into piles of five or six loads, and mix about a bushel of lime to a load, with a sprinkling of plaster near the top to prevent the waste of ammonia by the action of the lime? Answers to the above, from you or any of your correspondents, will be thankfully received. THOMAS PLATO—*Marilla, Erie Co., N. Y.*

Our correspondent will see in the April number of the FARMER an extract from an essay on geology as connected with agriculture, which will answer his inquiries in part. His plan for making muck compost is first rate; but too many are unwilling to be at the trouble of increasing their means of fertilization by similar plans, though it is an indispensible requisite for productive farming.

WILL you oblige an old subscriber and the farmers generally, by stating in your valuable paper what cider mill is considered the best among the fruit-growers of New York State? We have in this section of Pennsylvania *Krouse's Portable Cider Mill,* and *Chapin's*—the last named is, however, but little known. Will you inform us what its reputation is at home, and whether there is something of the kind still better. D. D. MAURER—*Reading.*

W. E. HICKOK's patent mill is preferred by purchasers as being the best, or among the best now in use.

Some plan for saving and applying manure, adapted to small farms with limited means, without rebuilding a great deal, would be very useful to some of us in this region. I have noticed in some of our papers a plan for catching it in tubs or troughs, placed under the stables; but how to preserve and apply, rather troubles us. If you could furnish the requisite information, it would be thankfully received. J. B.—*Virgil.*

The following extract from a communication in the *Journal of the Royal Agricultural Society*, may perhaps answer the inquiries of our correspondent:

"Knowing something of the value of urine, and the profit to be derived from it, I am the more anxious to induce others to try it, and will therefore take this opportunity of saying something about the mode I have adopted to collect it, and the expense of the tanks to retain it, which may be useful to those who have not yet set about so important an operation in agricultural pursuits.

"My land is clay, 250 feet deep; in this soil only have I had experience, so for this only do I prescribe. Having well considered where the liquid is to be used, as well as where it is to be made, and resolved upon the most convenient situation, I have a hole dug full seven feet in diameter and twelve feet deep, the bottom being shaped like a basin, and well rammed, with a little water, into a good puddle. The construction of the tank is commenced by the bricklayer forming a circle with bricks (four inch work) round an opening of five feet, leaving a space behind the brick work to be filled and rammed well in with clay-puddle by the laborers as the building is worked up, no mortar being used with the bricks, or anything else till the dome is to be formed; mortar or cement is then required, the roof is then arched in, a man-hole left in the center of each tank, and covered with a three-inch yellow deal cover (two-inch oak would be better.) One of these tanks, containing 1000 gallons, costs £2 17s. 6d. [about $14] in the following items, calculating to farmers who have the horses and carts in possession:

	£	s.	d.	
Two farm laborers, each ¼ day	0	2	0	Occupied in digging the hole, carting away clay, preparing puddle, and ramming.
Two laboring lads, each 1 day	0	3	0	
One man 1 day	0	2	0	
Two others, 1 day	0	5	0	
One bricklayer, 1 day	0	4	6	
One ditto laborer, 1 day	0	2	6	
Three horses and carts drawing away ¼ mile, for want of nearer shoot, ¼ day	0	4	6	
8 feet of 3-inch deal for cover, at 5½d. per foot	0	3	8	
Labor and nails	0	0	10	
Lime and sand for man-hole	0	2	6	
900 place bricks	1	7	0	
	£2	17	6	

Several of these tanks should be made adjoining each other; they then form a most excellent filter to keep back any hay or straw that would prevent the egress of the liquid from the water-cart, receiving it into the first from the stables, and pumping it out from any other one of them. It must be observed, also, the tanks being formed, the drainage into them is the next feature to be considered. I have adopted a mode economical and effectual, by laying down in the pavement what is called at the iron works an angle-iron gutter of very small size, and covering the surface of it with a flat iron bar, just to lay within the surface of the gutter, wherein all the urine is received and conveyed away immediately, and all the straw, dung, and dirt is kept out. This is highly advantageous, as the urine is conveyed away immediately, without escape of ammonia, and the little gutter may be uncovered as often as you please, and swept out with a broom. There is no underdrain to get stopped; all can be seen and kept in order by a commonly useful person, without the aid of what is called a tradesman. I should like to see three of these little gutters down a stall, whereby all the urine would be caught; three gallons per day from each moderately-sized horse, more from cart-horses that drink freely, considerably more from cows, and a much larger quantity from pigs than is usually calculated. If all the water is caught from farm-horses, cows, pigs, farm-servants, and household-servants, the tanks would be filled very quickly; and whenever the tank containing 1000 gallons of urine is filled the second time and properly applied to Italian rye-grass, the result will show it is not too high an estimate to calculate the tanks and drains paid for. The first application will convince the grower of ten acres of this grass, that his present stock is insufficient to eat it. He must add to it, and thereby increase the quantity of urine considerably, and so go on to keep a much larger farming stock altogether. The often-asked question, 'How shall I obtain urine enough?' will cease to be asked, and the amount of solid fæces so much increased as to obviate the necessity for a constant outlay of capital to procure it."

I would like to be informed through the columns of your journal, the causes and the cure of the disease in cattle called hollow-horn, or wolf in the tail. Eleazer Lewis, Jr.—*New Market.*

The remarks of Dr. Dadd in a recent meeting of the Massachusetts Legislative Agricultural Meeting, will be found of interest in reference to the query of our correspondent:

"Dr. Dadd, of Boston, said veterinary science had been too long neglected in this country. There were many who pretended to prescribe for diseases of animals without knowing anything about them, and would commence some funny operations.

"They would examine the horns and would sometimes bore into them, and perhaps let out a little pus, if they found the horn cold.

"He considered, however, that heat or cold on the surface were only *symptoms*. If the surface was hot, the circulation was active; if cold the reverse was true.

"There was a communication from the horn to the nares, or nostril, and any pus in the horn would of course run down through the nostril, instead of upwards into the horns!

"Sometimes this might become tenacious, so as to stop the passage. Then it was requisite to steam the nostril to make it run down. By penetrating the living membrane, or by admitting the atmospheric air by boring, inflammation was apt to ensue.

"He maintained there was no such disease as 'horn ail.' Has examined animals said to die of horn ail. Has found a softening of the brain. And this arises often from an improper condition of the stomach. Many diseases of the brain originate in the stomach.

"There is a perfect channel to the tip of every horn. There are longitudinal divisions of the horn, and if in boring, the gimlet hits one of the partitions, it seems to be solid. If it chances to go between two of these partitions it would appear to be hollow.

"The cold horn is really only a circumstance indicative of the state of circulation in the system."

I was much interested in your article in the February number on bones and their uses; and in your quotation from Prof. Norton, it is stated that fifty pounds sulphuric acid would cost $1.50. Mr. Nesbitt, in his lectures in England, quotes it at £7 per ton, which is about the same. But our druggists here say that they never heard of any such price, and their commercial circulars quote it at ten cents per pound by the quantity in New York. Now, if you will show where the discrepancy lies, you will oblige one subscriber, and perhaps more. X.

Ordinary sulphuric acid, under the title of oil of vitriol, our correspondent will see quoted in any of the New York papers which give full reports of the market, at from three to three and a half cents per pound by the carboy. It is somewhat higher in price now than in former years, owing to the great demand for sulphur in the manufacture of powder. The acid commonly purchased and used by druggists is the concentrated sulphuric acid, which must be largely diluted before it can be applied to the dissolving of bones.

WISHING to cultivate some celery plants the present season, will you please give some directions for so doing through the columns of the FARMER. J. B. H.—*Linden, Ind.*

Celery requires a deep, rich soil, manured with well-rotted dung, and broken bones put into the trench *we have found to be very beneficial*. The soil in which the seed is to be sown must be very finely pulverized, as one ounce of seed will make many thousand plants. When about eight inches high, they may be transplanted to the trench, after having their tops and roots trimmed. They require to be thoroughly watered when transplanted, and shaded by boards from the sun, taking care to remove them at night-fall, and so on until the plants become well started in their new localities. The trenches may be about a foot in width and from fifteen to eighteen inches deep. Place three or four inches of well-rotted manure in the bottom of each trench, and also the same depth of good light loam, and mix thoroughly together. When the plants are about fifteen inches high, commence earthing up. This requires care and patience. Take the stems in your left hand, and draw up the earth with the other hand, taking particular care not to let dirt fall into the crown of the plant, which injures its taste and growth.

HAVING fifteen or twenty dollars to spare, I would like to lay it out to the best advantage in books on agriculture, but do not know what ones to get. I should like to have some on *practical* as well as *theoretical* farming. Will you have the kindness to name, in your next issue of the FARMER, a list of agricultural books and their cost that stand highest in your esteem? B. T. R.—*Newburgh, N. Y.*

The above will be answered in our next.

Will you tell me what is the best remedy against the bee-moth? It has destroyed nearly all our hives in this section of the country. *J. W. Helm—Paris, Wisconsin.*

You will find your query answered on page 68 of the FARMER for 1854.

I HAVE a fine cow suffering from garget. I say *garget*, but am not quite sure that that is the disease. She looks well, eats well, her eyes are bright, as is also her hair, which lies smooth. Still, the milk is *stringy*, and last year it nearly failed. Will you or some of your corresponpents be so kind as to inform me of a remedy for the disease, and whether it is actually garget or not? A SUBSCRIBER—*Gates, N. Y.*

HORTICULTURAL.

INARCHING PLUM AND PEAR TREES. (G. M. B.) The plum and pear trees, two to three inches in diameter, being deficient of roots, which you have, may be inarched by planting young trees of the respective kinds near them, and after they have grown *one* season, you may then, early in spring before the sap commences to circulate, cut out with a sharp knife from the old plant a portion of the bark and the wood, so that when brought to the young plant, a correspondifig cut out of it will exactly unite and fit. The whole ought to be bound with strips of cloth which have been dipped into melted grafting wax. As soon as they have firmly united, the top of the young plant should be cut off, throwing all the top in the old plant. They may grow, but it can not be recommended to practice.

Notices of New Books, Periodicals, &c.

THE NATURALIZATION LAWS OF THE UNITED STATES, and also a Synopsis of the Alien Laws of all the States, with forms for naturalization. Rochester, N. Y.: D. M. DEWEY, Publisher.

This work has been laid on our table by the enterprising publisher; and upon inspection we find it to contain much matter of general interest to all classes of citizens. It also contains a table of the nativities of the foreign born population of the United States, and many other topics, which in these times of excitement respecting our naturalization laws, &c., render it necessary for all to have as a matter of study and reference. Price per copy, 25 cts.

SCHENCK'S GARDENER'S TEXT BOOK: Containing practical directions upon the Formation and Management of the Kitchen Garden, &c. By P. A. SCHENCK. Boston: JOHN P. JEWETT & Co. Cleveland, Ohio: JEWETT, PROCTOR & WORTHINGTON.

The above fully explains the design of the work; and after a careful inspection we cordially commend it to our readers as a useful and valuable handbook of gardening.

THE ENDS AND MEANS OF A LIBERAL EDUCATION: An Inaugural Address delivered July 11th, 1854, by M. B. ANDERSON, President of the University of Rochester. Rochester, N. Y.: WM. N. SAGE, Publisher.

We are indebted to the publisher for a copy of the above, which is truly an able and eloquent production. The claims of a liberal education, and the means by which it may be acquired, are detailed with great force and originality.

THE FLOWER GARDEN, OR BRECK'S BOOK OF FLOWERS: In which is described all the various hardy herbaceous perennials, annuals, shrubby plants, and evergreens desirable for ornamental purposes, with directions for their cultivation. Second thousand. By JOSEPH BRECK. Boston: J. P. JEWETT & Co., No. 17 and 19 Cornhill.

The above is well explained by its title, and it is generally recognized as a standard work. Simple and chaste in style—plain in its directions—there is no work of its kind, to our knowledge, which we should prefer as a text-book and flower-garden companion.

THE AMERICAN FRUIT BOOK: a book for everybody. Twentieth Thousand. By S. W. COLE. Boston: J. P. JEWETT & Co. Cleveland, O.: JEWETT, PROCTOR & WORTHINTON.

The above contains directions for raising, propagating, and managing fruit trees, shrubs and plants, with a description of the best varieties of fruit, including new and valuable kinds.

THE SLAVE OF THE LAMP: A posthumous Novel. By WM. NORTH, author of "Anti-Coningsby." New York: H. LONG & Co. For sale by D. M. DEWEY, No. 4, Arcade Hall, Rochester, N. Y.

A well written work, containing many fine passages;—but with some of the sentiments expressed by the hero of the lamp we do not at all coincide. If this world is to be made better, it is only by reference to the golden rule, Do ye unto others as ye would they should do unto you; and each and every system of reform that is not based thereupon will fail.

TRANSACTIONS OF THE WORCESTER COUNTY (MASS.) AGRICULTURAL SOCIETY.

We have been favored by the attention of W. S. LINCOLN, Esq., with this work. The volume is well got up and very neatly printed, and the methods of cultivation practiced by the competitors for premiums detailed at length.

THE CASTLE BUILDERS. By the author of "Heart's Ease," "The Heir of Red Clyffe," Scenes and Characters," etc. New York: APPLETON & Co.

A well written work, designed to show the importance of having well-defined principle as the motive to action, and not mere feeling and sentiment. The author aims to show that a settled purpose in life is the only preventive by means of which good impulses in characters undeveloped will not gradually yield to selfish inactivity.

THE HISTORY OF THE HEN FEVER: A humorous record. By GEO. P. BURNHAM. Boston: J. FRENCH & Co. For sale by W. N. SAGE, Rochester, N. Y.

The publishers have favored us with a copy of the above, and in our opinion it is a very fitting companion to the life of P. T. BARNUM, by himself. Each, in his individual sphere, would leave the impression that he has been the prince of humbugs, and the servant of the Father of Liars.

THE RELATIONS OF CHEMISTRY TO AGRICULTURE, and the agricultural experiments of Mr. J. B. LAWES. By JUSTUS V. LIEBIG. Translated by SAMUEL W. JOHNSON, at the author's request. Albany, N. Y.: Published by LUTHER TUCKER.

We have been favored with a copy of the above by the publisher, and we judge it to be the most interesting and inctructive work we have noticed for some time. Prof. LIEBIG's fame as a writer and author is well known to our readers, and every intelligent agriculturist will derive benefit from a perusal of the work above mentioned.

THE ROCHESTER MYSTERY: A full narrative of the mysterious disappearance of Miss EMMA MOORE, the recovery of her body, and all the incidents connected with the mournful tragedy. Rochester: J. MCMAHON, Waverly News Rooms, State st.

The above contains a full account of the incidents connected with the mysterious disappearance of the young lady mentioned above, together with the proceedings before the coroner's jury, consequent upon the recovery of the body.

SECOND ANNUAL REPORT OF THE SECRETARY OF THE MASSACHUSETTS BOARD OF AGRICULTURE, together with reports of committees, &c.

We are much indebted to the accomplished secretary for the above valuable document, which is a credit to the old Bay State. Volumes like the foregoing should be placed in the hands of every farmer; for it would be impossible for any one to read the collected experience and observations of many, without deriving benefit therefrom.

BLACKWOOD FOR FEBRUARY. Sold by D. M. DEWEY, Rochester, N. Y.

This magazine contains, as usual, sterling articles on various subjects, among which we would specify—Whence have come our Dangers—Schamyl and the War in the Caucasus—Revelations of a Showman, being a review of the Life of Barnum—The Story of the Crimea.

THE NORTH BRITISH REVIEW FOR FEBRUARY. New York: Reprinted by L. SCOTT & Co. For sale by D. M. DEWEY, Rochester, N. Y.

This number contains several valurble articles, among which we would name The Continent in 1854—Finlay on the Byzantine Empire—Vaudois and Religion in Italy—How to stop Drunkenness—Old English Songs—Diet and Dress—The electric Telegraph.

THE LONDON QUARTERLY REVIEW FOR JANUARY. Sold by D. M. DEWEY, Rochester, N. Y.

The above contains instructive articles on Fires and Fire Insurance—Life of Dallon and Atomic Chemistry—Clerical Economies—The open Fire-place—Campaign in the Crimea—The Conduct of the War.

MARKETS.

ROCHESTER MARKET, April 17, 1855.

Flour, per bbl.	$11 00
Wheat, per bushel,	2 50
Corn	82
Oats	47
Barley	1 00
Clover seed	6 50
Timothy	$3 00 a 3 50
Wool, per lb.	25 a 33

NEW YORK MARKET, April 16, 1855.

FLOUR—State and Western brands are less active, but with light receipts and a reduced stock. Holders are firm in their claims. The home trade are buying most, shippers doing but little. Ordinary State $9,43¾ a 9,50; straight State $9,50 a 9,62½; favorite State $9,62½ a 9,75; mixed Western $9,87½ a 10,00; common to good Indiana and Michigan $10 a 10,25; fancy Michigan $10,25 a 10,37½; common to good Ohio $10,00 a 10,25; fancy Ohio $10,25 a 10,37½; extra Ohio $10,50 a 12,00; extra Indiana and Michigan $10,50 a 11,00; fancy Genesee 10,25 a 10,62½; extra Genesee $11,50 a 13,00.

WHEAT—per bushel, $2,62 a 2,80. Corn, per bushel, $1,07 a 1,08. Oats, 70 a 76c. Barley, $1,25 a 1,30.

CATTLE MARKET—Best Beef, 11½ a 12c.; good, 10½ a 11c.; ordinary, 9½ a 10c. Sheep, average of sales, $5,42 per head.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

DRAINAGE AND SEWERAGE PIPE MACHINE.

CHARNOCK'S PATENT.

BY this Machine, Drainage and Sewerage Pipes of all descriptions, as well as perforated and other Bricks, Flooring Tiles &c., are molded with the greatest facility and precision.

A man and three boys can turn out from 5,000 to 10,000 feet of pipes per day, according to sizes; and if worked by horse, steam or water power, a proportionate increase will be obtained.

This Machine is in extensive operation in England, where, in addition to the testimony of numerous Tile Makers, as well as that of some of the first Machinists of the day, the following Prizes have been awarded to it:

By the Yorkshire Agricultural Society, at its annual meeting, 1845, as the first Tile Machine with a continuous motion,	£5 0 0
By the same Society, the following year, as the best Machine of the day,	10 0 0
By the Lancashire Agricultural Society, at its annual meeting, 1845,	Silver Medal.
By the Highland Agricultural Society, at its annual meeting in 1846, as the best Machine,	5 0 0

At the meeting of the New York State Agricultural Society, at Saratoga (1853), a Working Model of this Machine was awarded the SILVER MEDAL AND DIPLOMA; and at the Fall Exhibitions the same year of Lower and Upper Canada, held respectively at Montreal and Hamilton, the same Model was awarded a DIPLOMA FROM EACH SOCIETY. It was awarded the FIRST PRIZE AND DIPLOMA at the recent Exhibition in London, C. W.

The price of the Machine is £50 (half cash and remainder at six months), with five Dies for Pipes. Brick and other Dies at a moderate charge.

☞ THE PATENTEE GUARANTEES THE EFFECTIVE WORKING OF THE MACHINE. ☜

☞ All orders to be addressed to

JOHN H. CHARNOCK,
Drainage Engineer, Hamilton, C. W., the Patentee.

January 1, 1855.—tf

THOROUGH-BRED MARES FOR SALE.

ON account of the owners leaving the country, two young full-blooded mares are offered for sale low. They are of good size and form, and in all respects desirable animals for breeders of stock. They can be seen by application to RICHARD S. CHARLES, Belvidere, Allegany Co., N. Y., who can give all information in regard to pedigree, price, &c. Feb. 1, 1854.—3t.

FARMERS, ATTENTION!

WE have now on hand and for sale at the lowest cash prices

100	bushels	Medium Clover seed,
400	do	Timothy seed from Indiana and Illinois,
150	do	Red Top seed,
100	do	Kentucky Blue Grass seed,
100	do	Orchard Grass seed,
200	do	Large Marrowfat Peas,
100	do	Early June Peas,
200	do	Early Kent Peas,
500	do	Field Peas, best quality,
300	do	Fife Wheat (bald,)
200	do	Club do do
150	do	Top Onions,
50	do	English Potato Onions,
100	do	Best Early Potatoes,

And also a full assortment of the best and purest Agricultural and Garden seeds ever offered in this market.

All orders promptly attended to at J. RAPALJE & Co.,
April 1—1t No. 65 Buffalo st., Rochester, N. Y.

THE PROGRESSIVE FARMER.

THE cheapest agricultural paper in the world. Eight pages royal quarto, handsomely illustrated. Price 25 cents per annum. A. M. SPANGLER, Editor. Office N. E. corner Seventh and Market st., Philadelphia, Pa. April 1—2t

HENRY C. VAIL,

CONSULTING AGRICTLTURIST, NEWARK, N. J.

WILL visit farms and give suitable advice for their improvement, founded on an analysis of the soil and a statement of its mechanical condition. Letters of inquiry as to terms, &c., will insure a reply and satisfactory evidence as to ability.

REFERENCES.—Prof. Jas. J. Mapes, Newark, N. J.; R. L. Pell, Esq., of Pelham, Ulster Co., N. Y.; J. J. Scoffield, Esq., Morristown, N. J.; Hon. John Stanton Gould, Hudson, N. Y.
April 1—tf

FERTILIZERS.

ESTABLISHED NINE YEARS.

KENTISH'S Prepared Guano; price $25 per ton. Superphosphate No. 1—by the New York Manufacturing Company; price $40 per ton. Both these articles can be had at the depot, No. 159 West street, city of New York. April—3t

NOTICE.

PERUVIAN GUANO.—As there are various substances now offering for Peruvian Guano in the New York market, to avoid imposition be particular to observe that every bag of the genuine Peruvian Guano has branded upon each—"Warranted No. 1 Peruvian Guano, imported into the United States by F. Barreda, Bros., for the Peruvian Government."

When taken in quantities from 1 to 5 tons, $48
" " " " 5 to 10 " 47
" " " " 10 to 15 " 46

A further discount in larger quantity. 2,000 lbs. to the ton.

A. LONGETT,
April 1—2t 34 Cliff st., corner Fulton, New York.

NEW CROP OF SEEDS.

FOR the spring of 1855.—The old and well known ROCHESTER SEED STORE, for the last ten years managed by the subscriber, has been removed from 29 Buffalo street to 34 Exchange street, two doors above the Clinton Hotel.

Claiming to know from experience, something of the value to the grower of good, fresh seeds, as well as the necessity of having such kinds as will give the greatest and best return to labor, this branch of the seed business has received special attention, and purchasers may rely on correctness. Our motto is "never knowingly to deceive a customer."

It is our intention to keep all the varieties of seeds desirable to be grown in the Northern States. I shall have the large German Clover, grown by the German Society of Farmers in Erie county. I have sold this large variety of Clover for several years, and it has never failed to give satisfaction.

Fife's or Scotch Spring Wheat, grown in Canada; may be sown as late as the middle of May. Good crops were grown from this variety last year in Monroe county.

Flower Seeds, Bird Cages, Bird Seed, &c.
April—3t JAMES P. FOGG.

READY ON THE TENTH OF MARCH.

"HISTORY OF THE HEN FEVER."

BY GEO. P. BURNHAM. Twenty Illustrations. An original humorous account of the POULTRY MANIA, by one who has been there! Price $1.25 in cloth; $1.00 in paper, *by mail*. Everybody who loves to laugh, buys it. Address

JAMES FRENCH & Co., Publishers,
April—3t Boston, Mass.

GENESEE VALLEY NURSERIES.

A. FROST & CO., ROCHESTER, N. Y.,

SOLICIT the attention of amateurs, orchardists, nurserymen, and others about to plant, to their extensive stock of well-grown Fruit and Ornamental Trees, Shrubs, Roses, &c. &c.

The Nurseries are now very extensive, and embrace one of the largest and finest collections in the country, and their stock is far superior to any that they have before offered. It is partly comprised in the following:

Standard Fruit Trees.—Apple trees, eighty varieties; Pear trees, one hundred varieties; Cherry trees, sixty varieties; Plum trees, forty varieties; Peach trees, thirty varieties; Nectarine, six varieties; Apricot, six varieties; and other kinds, comprising every sort of merit.

Dwarf and Pyramid Fruit Trees, of every description, for cultivation in orchards and gardens, have received particular attention. They embrace the following kinds, and comprise nearly the same number of sorts as are grown for standards:

Pears upon the best European Quince stocks.
Apples upon Paradise and Doucain stocks.
Cherries upon Cerasus Mahaleb stocks.

Small Fruits, as Currants, eighteen varieties; Gooseberries, sixty varieties; Grapes, Native and Foreign, twenty-five varieties; Raspberries, six varieties; Strawberries, twenty varieties; and other miscellaneous fruits, as well as esculent roots, in variety.

Deciduous and Evergreen Trees, for lawns, parks, streets, &c.

Evergreen and Deciduous Shrubs, in great variety, including four hundred sorts of Roses.

Hedge Plants—Buckthorn, Osage Orange and Privet; and for screens and avenues, American Arbor Vitæ (White Cedar), Norway Spruce, &c.

Herbaceous Plants.—A very select and extensive assortment.

Green-house and Bedding Plants, of every description.

All articles are put up in the most superior manner, so that plants, &c., may be sent thousands of miles and reach their destination in perfect safety.

Parties giving their orders may rely on receiving the best and most prompt attention, so that perfect satisfaction may be given the purchaser.

The following descriptive Catalogues, containing *prices*, are published for *gratuitous* distribution, and will be mailed upon every application; but correspondents are expected to enclose a one cent postage stamp for each Catalogue wanted, as it is necessary that the postage should be prepaid:

No. 1. Descriptive Catalogue of Fruits for 1854-5.

No. 2. Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, &c. &c., for 1854-5.

No. 3. Wholesale Catalogue or Trade List, just published for the fall of 1854 and spring of 1855, comprising Fruits, Evergreens, Deciduous Trees, &c. &c., which are offered in large quantities.

October 1, 1854.—tf

MERINO SHEEP.

THE subscriber will sell a few Spanish Merino Sheep—bucks and ewes—of undoubted purity of blood. He will also dispose of a part of his stock of imported FRENCH Merinos.

Gentlemen purchasing from this flock can have the sheep forwarded to the principal Western towns at my risk.

Sept. 1, 1854—tf R. J. JONES, Cornwall Vt.

SUGAR GROVE FARM,

7 Miles from Dayton, owned by Jas. McGrew.

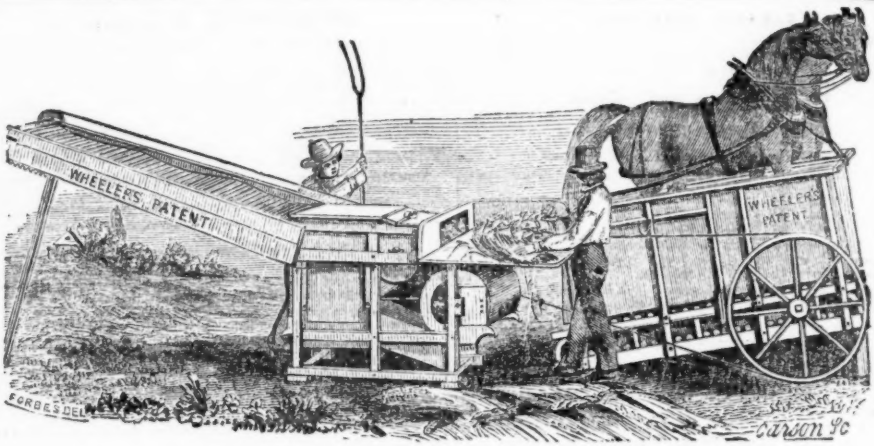
THE undersigned, successors of Jas. Sumpter & Co., will continue the business of said firm and fill all the contracts made by it in Ohio and Illinois, and being thankful for past favors would now solicit future patronage. We design prosecuting our business with redoubled energy. We have no hesitancy in stating that we have the largest and best lot of Osage Orange plants ever grown on the continent, owing to the fact that the seed was planted where they did not suffer from the severe drouth that has so generally prevailed throughout the country. We also import our own seed direct from Texas; it shall be fresh and of the best quality. All of which is warranted and will be sold at the lowest prices.

Full directions for raising plants, Setting, Cultivating and Trimming in a manner that will secure success, will accompany each lot of seed and plants sold.

We continue to plant, cultivate, trim and mature a complete fence at from 75 cts. to $1.00 per rod, one-third to be paid when planted, and the balance when completed. Hedges set and warranted at from 30 to 40 cts. per rod. Hedges grown, for what disinterested persons will say they are worth, when matured. Hedges completely grown at $1.00 to $1.25 per rod, to be paid when a thorough fence is matured.

We wish a large number of business men, living in localities where hedging is needed, to take hold with us in the planting and growing of hedges, the sale of plants, seed, &c. Those having the confidence of their neighbors, shall receive a liberal offer. Let us hear from you gentlemen. The enterprise is not only laudible, but will pay.

McGREW, LEAS & CO.
March, 1855.—3t Dayton, Ohio.



WHEELER'S HORSE POWER AND COMBINED THRESHER AND WINNOWER.

NEW YORK STATE AGRICULTURAL WORKS,
BY WHEELER, MELICK & CO., ALBANY, N. Y.

ENCOURAGED by the prefereuce which has been given to our machines wherever they have been introduced, we take pleasure in announcing to the farmers and planters of the United States, and to Dealers in Agricultural Machiues generally, that our arrangements for the year 1855, are on a scale sufficiently extensive to enable us to fill our increasing orders with promptness and despatch. We shall continue to adopt every alteration that experience suggests, and thorough test proves to be valuable. Our manufacturing facilities, including steam labor-saving machinery and tools, are unequaled in extent and completeness, by any similar establishment in the world; and each branch—Iron, Wood, Foundry Work, and Finishing, is under the immediate superintendence of a competent and experienced partner, who personally inspects materials and workmanship. We employ competent workmen, and have no job or piecework done. In our long experience, our determination to make each article the best of its kind, in our superior manufacturing facilities, in the regularly increasing popularity of our machines wherever they are used, and in our unrestricted warranty, we trust the public will continue to find the strongest guaranty that can be given, that our machines are unequaled in the quality of their work, durability, convenience, and cheapness.

A MEDAL was awarded to WHEELER'S POWER AND THRESHER, at the recent Crystal Palace Exhibition in the city of New York.

WHEELER'S
PATENT ENDLESS CHAIN RAILWAY HORSE-POW'R.

These Horse Powers (represented in the above cut) are unrivaled for driving all kinds of Farmers', Planters', and other machinery, which admits of being driven by Horse Power. They are made for either one or two horses, and their superior merits, in point of durability and ease of running, are fully established; while their compactness and simplicity, lightness, and greater length and width of treading floor and stall, give them advantages over other Powers, which are highly appreciated by those who have tried them. *Several thousands* are in use, some of which have threshed over 100,000 bushels; and though our present Powers are much improved over the old ones of the same kind, yet the latter are still good. Over 1000 of them were sold by us and our agents the past season, (a larger number than in any previous year,) thus proving their increasing popularity.

WHEELER'S
PATENT COMBINED THRESHER AND WINNOWER

This machine (also represented in the cut) is a late invention. It was got out three years ago, after a long series of experiments, resulting in a machine which performs the *three operations of threshing, separating, and winnowing*, with as much despatch and as few hands and horses as are required to thresh and separate only with other machines; and although designed for so complicated work, it is yet a model of simplicity and compactness. The entire running parts are driven by the main belt and one small band. We have no doubt it is the most perfect machine in use for threshing and winnowing. Driven by two horses, they thresh and clean from 150 to 200 bushels of wheat, or twice that quantity of oats per day.

We give a notice of it from the *Valley Farmer*, published at St. Louis, Mo., and also two letters from gentlemen, who have the machines in use, showing the estimation in which they are held, premising that these two are about an average of many other similar letters, which we can show:

[From the Valley Farmer, of August, 1853.]

"WHEELER'S COMBINED THRESHER AND WINNOWER.—We take pleasure in laying before our readers the following extract from a letter just received by us from a very respectable individual in Cape Girardeau County, Mo., to whom we sold one of these machines about a week ago, with the understanding that if it did not work to his satisfaction he could return it to St. Louis at our expense. It will be recollected that the manufacturers warrant these machines to thresh and clean from 150 to 200 bushels of wheat per day, or twice that quantity of oats:

'Apple Creek, Mo., July 18, 1853.

'MR. E. ABBOTT—Dear Sir:—I have tried my Thresher and Winnower, and it has given entire satisfaction. I have moved the machine one mile, set it up, and threshed two hundred and forty-two bushels of wheat in one day, and have threshed forty bushels an hour. It works finely, and is considered the best machine to thresh and save grain in South-East Missouri. IT CAN'T GO BACK TO ST. LOUIS. I think I shall thresh from 8,000 to 10,000 bushels of wheat this season. Yours, truly, JAMES F. COLYER.'"

Another gentleman to whom we sold our Double Power and Combined Thresher and Winnower, writing to us from Orange Co., N. Y., under date of December 9th, 1853, says:

"I have received the machine and used it, and it gives the very best of satisfaction that could be expected.

"Yours truly, HENRY J. HOWE."

Having sold between 300 and 400 of the Winnowers during the past season, we could, if space permitted, give many other testimonials to their utility, but the above must suffice.

WHEELER'S
OVERSHOT THRESHER WITH VIBRATING SEPARATOR.

This machine is also our own invention, and has been in use 13 or 14 years, and its many advantages are appreciated by other manufacturers, as well as the farming public. Driven by our Double Power, it threshes and separates from the straw from 150 to 200 bushels of wheat, or twice as much oats, per day. For the Single or One Horse Power, we make a smaller Thresher and Separator, which threshes from 75 to 100 bushels of wheat per day. The small machine is adapted to moderate-sized farms, and as the Single Power is sufficient for sawing wood, churning, cutting stalks, straw, etc., and driving almost every kind of machine used by farmers, and is capable, by changing horses and elevating the Power properly, of threshing much, faster than we stated above, it is a very popular machine in some sections. We would also call especial attention to our Clover Hullers, Portable Saw Mills, and Stalk and Straw Cutters, either of which are adapted to both our Double and Single Powers.

All our machines are *warranted* to give entire satisfaction, or they may be returned at the expiration of a reasonable time for trial.

PRICES.

For Double or Two Horse Power, Thresher and Separator, including belts, wrenches, and oil-cans, complete	$160
Double Power alone, including belt	120
" without belt	115
Double Thresher and Separator, alone	40
Single or One Horse Power, Thresher and Separator, including belts, oil-cans and wrenches, complete	128
Single Power, alone, including belt	90
" without belt	85
Single Thresher and Separator, alone	38
Clover Hullers	32

Straw and Stalk Cutters, for horse power	32
Circular Saw Mill, with 24 inch Saw	38
One Horse Power, without band wheel	80
Churn Gearing	13
Band Wheel	5
Band for Power	5
Double Power, with Combined Thresher and Winnower, including belts, wrenches, etc.	245
Combined Thresher and Winnower, alone	125

Orders are solicited and will be promptly filled. Address

WHEELER, MELICK & CO.,
May—1t Albany, N. Y.

BOOKS FOR THE FARMERS!

FURNISHED BY THE PROPRIETOR OF GENESEE FARMER.

I The Cow, Dairy Husbandry, and Cattle Breeding. Price 25 cts.
II. Every Lady her own Flower Gardener. Price 25 cents.
III. The American Kitchen Gardener. Price 25 cents.
IV. The American Rose Culturer. Price 25 cents.
V. Prize Essay on Manures. By S. L. Dana. Price 25 cents.
VI. Skinner's Elements of Agriculture. Price 25 cents.
VII. The Pests of the Farm, with directions for extirpation. Price 25 cents.
VIII Horses—their Varieties, Breeding, Management, &c. Price 25 cents.
IX. The Hive and Honey Bee—their Diseases and Remedies. Price 25 cents.
X. The Hog—its Diseases and Management. Price 25 cents.
XI. The American Bird Fancier—Breeding, Raising, &c. 25 cts.
XII. Domestic Fowls and Ornamental Poultry. Price 25 cents.
XIII. Chemistry made Easy for the Use of Farmers. Price 25 cents.
XIV. The American Poultry Yard. The cheapest and best book published. Price $1.
XV. The American Field Book of Manures. Embracing all the Fertilizers known, with directions for use. By Browne. $1.25.
XVI. Buist's Kitchen Gardener. Price 75 cents.
XVII. Stockhart's Chemical Field Lectures. Price $1.
XVIII. Wilson on the Cultivation of Flax. Price 25 cents.
XIX. The Farmer's Cyclopedia. By Blake. Price $1.25.
XX. Allen's Rural Architecture. Price $1.25.
XXI. Phelps's Bee Keeper's Chart. Illustrated. Price 25 cents.
XXII. Johnston's Lectures on Practical Agriculture. Paper, price 25 cents.
XXIII. Johnston's Agricultural Chemistry. Price $1.25.
XXIV. Johnston's Elements of Agricultural Chemistry and Geology. Price $1.
XXV. Randall's Sheep Husbandry. Price $1.25.
XXVI. Miner's American Bee-Keeper's Manual. Price $1.
XXVII. Dadd's American Cattle Doctor. Complete. Price $1.
XXVIII. Fessenden's Complete Farmer and Gardener. 1 vol. Price $1.25.
XXIX. Allen's Treatise on the Culture of the Grape. Price $1.
XXX. Youatt on the Breeds and Management of Sheep. Price 75 cents.
XXXI. Youatt on the Hog. Complete. Price 60 cents.
XXXII. Youatt and Martin on Cattle. By Stevens. Price $1.25.
XXXIII. The Shepherd's own Book. Edited by Youatt, Skinner and Randall. Price $2.
XXXIV. Stephens's Book of the Farm; or Farmer's Guide. Edited by Skinner. Price $4.
XXXV. Allen's American Farm Book. Price $1.
XXXVI. The American Florist's Guide. Price 75 cents.
XXXVII. The Cottage and Farm Bee-Keeper. Price 50 cents.
XXXVIII. Hoare on the Culture of the Grape. Price 50 cents.
XXXIX. Country Dwellings; or the American Architect. Price $6
XL. Lindley's Guide to the Orchard. Price $1.25.
XLI. Gunn's Domestic Medicine. A book for every married man and woman. Price $3.
XLII. Nash's Progressive Farmer. A book for every boy in the country. Price 50 cents.
XLIII. Allen's Diseases of Domestic Animals. Price 75 cents.
XLIV. Saxton's Rural Hand-books. 2 vols. Price $2.50.
XLV. Beattie's Southern Agriculture. Price $1.
XLVI. Smith's Landscape Gardening. Containing hints on arranging Parks, Pleasure Grounds, &c. Edited by Lewis F. Allen Price $1.25.

RECENTLY PUBLISHED.

XLVII. The Farmer's Land Measurer; or Pocket Companion Price 50 cents.
XLVIII. Buist's American Flower Garden Directory. Price $1.25.
XLIX. The American Fruit Grower's Guide in Orchard and Garden. Being the most complete book on the subject ever published.
L. Quinby's Mysteries of Bee-Keeping explained. Price $1.

The above will be sent free upon receipt of price annexed.

CUTTER RIGHTS FOR SALE

WE will test our Hay, Stalk and Straw Cutter, patented November 8th, 1853, for speed, ease and durability, against any other in the United States. J. JONES & A. LYLE.

☞ For farther information, address JONES & LYLE, Rochester, N. Y. February 1, 1854.—tf

RARE AND VALUABLE SEEDS,

BY MAIL, FREE OF POSTAGE.

Orange Watermelon, 16 seeds	25 cents
Ice Cream or White Sugar Melon, 16 seeds	25
The genuine Chinese Hoo-sung, 100 seeds	25
Negley's Seedling Cucumber, 12 seeds	25
Five-foot Cucumber, 6 seeds	25
Cherry Pea—new and curious—warranted bug proof, 12 seeds	25
Citron Nutmeg Muskmelon, 20 seeds	12½
The celebrated Japan Pea, 20 seeds	12½
California Muskmelon, 12 seeds	12½
The Floral King, 12 seeds	12½

Mexican wild Potatoes at $1 per bushel, and Sweet Potato plants at $1 per hundred, or $4 for five hundred, or $7.50 per thousand, delivered to American Express Company at Macedon depot, New York Central Railroad.

Please send current funds or gold; if not convenient to make change, I will return the change in Postage Stamps.

I. W. BRIGGS,
May—tf West Macedon, Wayne Co., N. Y.

WM. H. LOOMIS,

WHOLESALE and Retail dealer in Fruit and Ornamental Trees, Plants and Shrubs, of all the leading and most popular varieties. Standard and dwarf trees of Apples, Pears, Plums, Peaches, Cherries, &c., all vigorous, stockey and well formed.

Also, a general assortment of Gooseberries, Currants, Raspberries, &c. &c. Ornamental trees and shrubs of every variety; Roses a large collection; Green House plants can be furnished on the shortest notice. Also a large quantity of Field and Garden Seeds on hand, and for sale at the lowest cash prices. Address (postpaid) Agricultural Rooms, South Bend, Ind.

March, 1855.—tf. WM. H. LOOMIS.

Contents of this Number.

Subterranean application of Liquid Manure 137
The Cells and Circulation of Plants 138
Lice on Cattle 139
Grass and Grain Seed Header and Harvester 140
Improved Hay Fork 140
Letter from Chili 142
How to catch Gophers 142
Canadian Sheep Husbandry 143
Potato Planter and Seed Drill 143
Cultivation of Barley 144
To keep Crows from Corn 144
Management of the Dairy 145
Hay Caps 147
Rearing Calves 147
Halladay's Windmill 148

HORTICULTURAL DEPARTMENT.

Hardy Roses 150
Collections of Roses 151
Hints on Gardening 151
Ravages of the Bark Louse 152
The Mysore Hexacentre 153
Strawberry Culture 154

LADIES' DEPARTMENT.

Cultivation of Plants and Flowers 155
Vegetables and their Cookery 157
Hints for Housewives 158

EDITOR'S TABLE.

Prospects for the Season 159
National Sheep Show 160
Inquiries and Answers 161
Notices of New Books, Periodicals, &c. 163

ILLUSTRATIONS.

Steadman's Grain and Grass Seed Header and Harvester. 140
Improved Hay Fork 141
Halladay's Wind-mill 149
Mysore Hexacentre 153

THE

GENESEE FARMER

FOR 1855.

In presenting his Prospectus for VOLUME XVI., SECOND SERIES, of the GENESEE FARMER to its patrons and friends, the undersigned returns his sincere thanks for the cordial appreciation and generous support extended during the past and previous years. The price will remain unchanged, though all the expenses connected with the mechanical department are much greater than in previous years; and it is only by the voluntary aid of the friends of agricultural progress that he is enabled to furnish so large an amount of reading matter in his monthly issues.

He will be assisted in the Editorial Department by Mr. W. D. ALLIS, who has been a regular contributor to its columns during the past year. Mr. JOSEPH FROST will continue as Horticultural Editor.

Increased efforts will be made to render the GENESEE FARMER worthy of support. Each subscriber is respectfully solicited to renew his subscription, and present the claims of the FARMER to his friends; and the result will enable the proprietor more than ever to advance the interests of its readers.

PREMIUMS.

To enlarge the usefulness by extending the circulation of the GENESEE FARMER, the undersigned will pay the following PREMIUMS on subscriptions to Volume XVI., second series:

FIFTY DOLLARS,

IN CASH, to the person who shall procure the LARGEST NUMBER OF SUBSCRIBERS in any County or District in the United States or Canadas, at the club prices.

FORTY DOLLARS,

IN CASH, to the one who shall procure the SECOND LARGEST LIST, as above.

THIRTY DOLLARS,

IN CASH, to the one procuring the THIRD LARGEST LIST.

TWENTY DOLLARS,

IN CASH, to the one procuring the FOURTH LARGEST LIST.

TEN DOLLARS,

IN CASH, to the one procuring the FIFTH LARGEST LIST.

In order to reward every one of the friends of the GENESEE FARMER for his exertions in its behalf, we will give to those not entitled to either of the above premiums, the following BOOKS, free of postage, or EXTRA PAPERS as may be preferred:

1. To every person who sends **SIXTEEN** subscribers, at the club terms of thirty-seven cents each, ONE EXTRA COPY OF THE FARMER, or a COPY OF LIEBIG'S LETTERS ON CHEMISTY AND AGRICULTURAL CHEMISTY (pamphlet edition).

2. To every person sending for **TWENTY-FOUR** copies, as above, any AGRICULTURAL BOOK valued at FIFTY CENTS, or TWO EXTRA COPIES OF THE FARMER.

3. To every person ordering **THIRTY-TWO** copies, any AGRICULTURAL BOOK worth SEVENTY-FIVE CENTS, or THREE EXTRA COPIES OF THE FARMER.

4. To every person ordering **FORTY** copies, any AGRICULTURAL BOOK valued at ONE DOLLAR, or FOUR EXTRA COPIES OF THE FARMER.

5. To every person ordering **FORTY-EIGHT** copies, any ARGRICULTURAL BOOK worth ONE DOLLAR AND TWENTY-FIVE CENTS, or FIVE EXTRA COPIES OF THE FARMER.

For larger numbers, books or papers given in the same proportion. To save cost to our friends, we pre-pay postage on all books sent as premiums. Persons entitled will please state whether they wish books or extra papers, and make their selection when they send orders, if they desire books; or if they have not obtained as many subscribers as they intend to, we will delay sending until the club is full, if so requested. We do not require that all the papers of a club should be sent to one post-office. If necessary for the convenience of subscribers, we are willing to send to as many different offices as there are members o the club. We write the names on each paper, when a number are sent to the same office, if desired; but when convenient, Postmasters would confer a favor by having the whole number ordered at their own office, sent to their own address.

☞ As all subscriptions commence anew with the year, places where the FARMER was never before taken will stand an equal chance in the competition for premiums.

☞ BACK VOLUMES of the FARMER will be furnished, if desired, and counted the same as new subscribers. We shall keep a correct account of the subscribers sent by each person, and in the JULY NUMBER WE SHALL ANNOUNCE THE PREMIUMS.

☞ Specimen numbers, show-bills, &c., sent to all post-paying applicants. All letters must be post-paid or free. Subscription money, if properly enclosed and registered, may be mailed at our risk.

DANIEL LEE, Publisher and Proprietor.